



## SEQUENCE LISTING

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Chiaki Senoo  
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<120> NOVEL GENES ENCODING PROTEIN KINASE/PROTEIN PHOSPHATASE

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<141> 2002-01-29

<150> PCT/JP00/05061  
<151> 2000-07-28

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<151> 1999-10-18

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<151> 2000-02-17

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Ile Gly Arg Gly Phe Asp Asn Leu Thr Ser Val His Leu Ala Arg His  
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act ccc aca gga aca ctg gta act ata aaa att aca aat ctg gaa aac 650  
Thr Pro Thr Gly Thr Leu Val Thr Ile Lys Ile Thr Asn Leu Glu Asn  
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Cys Asn Glu Glu Arg Leu Lys Ala Leu Gln Lys Ala Val Ile Leu Ser  
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gca agt caa ctc ttg agg acc tat ttt cct gaa gga atg agt gaa act 842  
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Gln Phe Ser Thr Ser Val Gln Pro Trp Leu Ser Pro Glu Leu Leu Arg			
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Gln Asp Leu His Gly Tyr Asn Val Lys Ser Asp Ile Tyr Ser Val Gly			
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Lys Thr Phe Ser Pro Ala Phe Phe Ser Leu Val Gln Leu Cys Leu Gln			
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Gln Asp Pro Glu Lys Arg Pro Ser Ala Ser Ser Leu Leu Ser His Val			
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Phe Phe Gln Met Lys Glu Ser Gln Asp Ser Ile Leu Ser Leu			
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Leu Pro Pro Ala Tyr Asn Lys Pro Ser Ile Ser Leu Pro Pro Val Leu			
385	390	395	
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Trp Glu Phe			

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 35 40 45  
 Val Leu Cys Ser Thr Asn Val Ser His Tyr Glu Leu Gln Val Glu Ile  
 50 55 60  
 Gly Arg Gly Phe Asp Asn Leu Thr Ser Val His Leu Ala Arg His Thr  
 65 70 75 80  
 Pro Thr Gly Thr Leu Val Thr Ile Lys Ile Thr Asn Leu Glu Asn Cys  
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 Gly Ser Trp Leu Trp Val Ile Ser Pro Phe Met Ala Tyr Gly Ser Ala  
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 260 265 270  
 Arg Thr Gln Met Leu Leu Gln Lys Leu Lys Gly Pro Pro Tyr Ser Pro  
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 Ser Ser Asp Pro Ala Leu Ile Gly Leu Ser Thr Ser Val Ser Asp Ser  
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 Asn Phe Ser Ser Glu Glu Pro Ser Arg Lys Asn Pro Thr Arg Trp Ser  
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 Thr Thr Ala Gly Phe Leu Lys Gln Asn Thr Ala Gly Ser Pro Lys Ala  
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 Cys Asp Arg Lys Lys Asp Glu Asn Tyr Arg Ser Leu Pro Arg Asp Thr  
 60 65 70  
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 Ser Asn Trp Ser Asn Gln Phe Gln Arg Asp Asn Ala Arg Ser Ser Leu  
 75 80 85  
 agt gcc agt cac cca atg gtg ggc aag tgg cag gag aaa caa gaa cag 341  
 Ser Ala Ser His Pro Met Val Gly Lys Trp Gln Glu Lys Gln Glu Gln  
 90 95 100  
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 Asp Glu Asp Gly Thr Glu Glu Asp Asn Ser Arg Val Glu Pro Val Gly  
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cgt gag aat gat tgc att gtc agg att aat gat ggc gac ctt cga aat	629
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Val Val Ser Leu Leu Arg Ser Thr Lys Met Glu Gly Thr Val Ser Leu			
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Gly Asn Arg Ser Lys Glu Asn His Ala Asp Leu Gly Ile Phe Val Lys			
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Ser Ile Ile Asn Gly Gly Ala Ala Ser Lys Asp Gly Arg Leu Arg Val			
490	495	500	
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505	510	515	
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665	670	675	
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760	765	770	775
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780	785	790	
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 Ser Arg Val Glu Pro Val Gly His Ala Asp Thr Gly Leu Glu His Ile  
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 Gly Arg Thr Leu Gly Leu Leu Val Lys Arg Leu Glu Lys Gly Gly Lys  
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 Ala Glu His Glu Asn Leu Phe Arg Glu Asn Asp Cys Ile Val Arg Ile  
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Ser Ala His Pro Ser Gly Lys Pro Pro Ser Ala Pro Ala Ser Ala Pro		
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Gly Phe Ser Ile Thr Ser Arg Asp Val Thr Ile Gly Gly Ser Ala Pro		
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Arg Leu Lys Ala Gly Asp Arg Leu Ile Glu Val Asn Gly Val Asp Leu		
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Val Gly Lys Ser Gln Glu Glu Val Val Ser Leu Leu Arg Ser Thr Lys		
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Met Glu Gly Thr Val Ser Leu Leu Val Phe Arg Gln Glu Asp Ala Phe		
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Glu Ser Leu Leu Gly Lys Thr Asn Gln Asp Ala Met Glu Thr Leu Arg		
515	520	525
Arg Ser Met Ser Thr Glu Gly Asn Lys Arg Gly Met Ile Gln Leu Ile		
530	535	540
Val Ala Arg Arg Ile Ser Lys Cys Asn Glu Leu Lys Ser Pro Gly Ser		
545	550	555
Pro Pro Gly Pro Glu Leu Pro Ile Glu Thr Ala Leu Asp Asp Arg Glu		
565	570	575
Arg Arg Ile Ser His Ser Leu Tyr Ser Gly Ile Glu Gly Leu Asp Glu		
580	585	590
Ser Pro Ser Arg Asn Ala Ala Leu Ser Arg Ile Met Gly Lys Tyr Gln		
595	600	605
Leu Ser Pro Thr Val Asn Met Pro Gln Asp Asp Thr Val Ile Ile Glu		
610	615	620
Asp Asp Arg Leu Pro Val Leu Pro Pro His Leu Ser Asp Gln Ser Ser		
625	630	635
Ser Ser Ser His Asp Asp Val Gly Phe Val Thr Ala Asp Ala Gly Thr		
645	650	655
Trp Ala Lys Ala Ala Ile Ser Asp Ser Ala Asp Cys Ser Leu Ser Pro		
660	665	670
Asp Val Asp Pro Val Leu Ala Phe Gln Arg Glu Gly Phe Gly Arg Gln		
675	680	685
Thr Asp Glu Thr Lys Leu Asn Thr Val Asp Asp Gln Lys Ala Gly Ser		
690	695	700

Pro Ser Arg Asp Val Gly Pro Ser Leu Gly Leu Lys Lys Ser Ser Ser  
 705 710 715 720  
 Leu Glu Ser Leu Gln Thr Ala Val Ala Glu Val Thr Leu Asn Gly Asp  
 725 730 735  
 Ile Pro Phe His Arg Pro Arg Pro Arg Ile Ile Arg Gly Arg Gly Cys  
 740 745 750  
 Asn Glu Ser Phe Arg Ala Ala Ile Asp Lys Ser Tyr Asp Lys Pro Ala  
 755 760 765  
 Val Asp Asp Asp Asp Glu Gly Met Glu Thr Leu Glu Glu Asp Thr Glu  
 770 775 780  
 Glu Ser Ser Arg Ser Gly Arg Glu Ser Val Ser Thr Ala Ser Asp Gln  
 785 790 795 800  
 Pro Ser His Ser Leu Glu Arg Gln Met Asn Gly Asn Gln Glu Lys Gly  
 805 810 815  
 Asp Lys Thr Asp Arg Lys Lys Asp Lys Thr Gly Lys Glu Lys Lys Lys  
 820 825 830  
 Asp Arg Asp Lys Glu Lys Asp Lys Met Lys Ala Lys Lys Gly Met Leu  
 835 840 845  
 Lys Gly Leu Gly Asp Met Phe Ser Leu Ala Lys Leu Lys Pro Glu Lys  
 850 855 860

Arg

865

<210> 5

<211> 30

<212> RNA

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Sequence

<400> 5

agcaucgagu cggccuuguu ggccuacugg

30

<210> 6

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Primer Sequence

<400> 6

gcggctgaag acggcctatg tggccttttt ttttttttt tt

42

<210> 7

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Primer Sequence

<400> 7

agcatcgagt cggccttggtt g

21

<210> 8

<211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Artificially Synthesized Primer Sequence

<400> 8  
 gcggctgaag acggcctatg t

21

<210> 9  
 <211> 433  
 <212> PRT  
 <213> Homo sapiens

<400> 9  
 Met Glu Val Val Asp Pro Gln Gln Leu Gly Met Phe Thr Glu Gly Glu  
 1 5 10 15  
 Leu Met Ser Val Gly Met Asp Thr Phe Ile His Arg Ile Asp Ser Thr  
 20 25 30  
 Glu Val Ile Tyr Gln Pro Arg Arg Lys Arg Ala Lys Leu Ile Gly Lys  
 35 40 45  
 Tyr Leu Met Gly Asp Leu Leu Gly Glu Gly Ser Tyr Gly Lys Val Lys  
 50 55 60  
 Glu Val Leu Asp Ser Glu Thr Leu Cys Arg Arg Ala Val Lys Ile Leu  
 65 70 75 80  
 Lys Lys Lys Leu Arg Arg Ile Pro Asn Gly Glu Ala Asn Val Lys  
 85 90 95  
 Lys Glu Ile Gln Leu Leu Arg Arg Leu Arg His Lys Asn Val Ile Gln  
 100 105 110  
 Leu Val Asp Val Leu Tyr Asn Glu Glu Lys Gln Lys Met Tyr Met Val  
 115 120 125  
 Met Glu Tyr Cys Val Cys Gly Met Gln Glu Met Leu Asp Ser Val Pro  
 130 135 140  
 Glu Lys Arg Phe Pro Val Cys Gln Ala His Gly Tyr Phe Cys Gln Leu  
 145 150 155 160  
 Ile Asp Gly Leu Glu Tyr Leu His Ser Gln Gly Ile Val His Lys Asp  
 165 170 175  
 Ile Lys Pro Gly Asn Leu Leu Leu Thr Thr Gly Gly Thr Leu Lys Ile  
 180 185 190  
 Ser Asp Leu Gly Val Ala Glu Ala Leu His Pro Phe Ala Ala Asp Asp  
 195 200 205  
 Thr Cys Arg Thr Ser Gln Gly Ser Pro Ala Phe Gln Pro Pro Glu Ile  
 210 215 220  
 Ala Asn Gly Leu Asp Thr Phe Ser Gly Phe Lys Val Asp Ile Trp Ser  
 225 230 235 240  
 Ala Gly Val Thr Leu Tyr Asn Ile Thr Thr Gly Leu Tyr Pro Phe Glu  
 245 250 255  
 Gly Asp Asn Ile Tyr Lys Leu Phe Glu Asn Ile Gly Lys Gly Ser Tyr  
 260 265 270  
 Ala Ile Pro Gly Asp Cys Gly Pro Pro Leu Ser Asp Leu Leu Lys Gly  
 275 280 285  
 Met Leu Glu Tyr Glu Pro Ala Lys Arg Phe Ser Ile Arg Gln Ile Arg  
 290 295 300  
 Gln His Ser Trp Phe Arg Lys Lys His Pro Pro Ala Glu Ala Pro Val  
 305 310 315 320  
 Pro Ile Pro Pro Ser Pro Asp Thr Lys Asp Arg Trp Arg Ser Met Thr

325	330	335
Val Val Pro Tyr Leu Glu Asp Leu His Gly Ala Asp Glu Asp		
340	345	350
Leu Phe Asp Ile Glu Asp Asp Ile Ile Tyr Thr Gln Asp Phe Thr Val		
355	360	365
Pro Gly Gln Val Pro Glu Glu Ala Ser His Asn Gly Gln Arg Arg		
370	375	380
Gly Leu Pro Lys Ala Val Cys Met Asn Gly Thr Glu Ala Ala Gln Leu		
385	390	395
Ser Thr Lys Ser Arg Ala Glu Gly Arg Ala Pro Asn Pro Ala Arg Lys		
405	410	415
Ala Cys Ser Ala Ser Ser Lys Ile Arg Arg Leu Ser Ala Cys Lys Gln		
420	425	430
Gln		

<210> 10

<211> 396

<212> PRT

<213> Homo sapiens

<400> 10

Met Pro Arg Val Lys Ala Ala Gln Ala Gly Arg Gln Ser Ser Ala Lys		
1	5	10
Arg His Leu Ala Glu Gln Phe Ala Val Gly Glu Ile Ile Thr Asp Met		
20	25	30
Ala Lys Lys Glu Trp Lys Val Gly Leu Pro Ile Gly Gln Gly Gly Phe		
35	40	45
Gly Cys Ile Tyr Leu Ala Asp Met Asn Ser Ser Glu Ser Val Gly Ser		
50	55	60
Asp Ala Pro Cys Val Val Lys Val Glu Pro Ser Asp Asn Gly Pro Leu		
65	70	75
Phe Thr Glu Leu Lys Phe Tyr Gln Arg Ala Ala Lys Pro Glu Gln Ile		
85	90	95
Gln Lys Trp Ile Arg Thr Arg Lys Leu Lys Tyr Leu Gly Val Pro Lys		
100	105	110
Tyr Trp Gly Ser Gly Leu His Asp Lys Asn Gly Lys Ser Tyr Arg Phe		
115	120	125
Met Ile Met Asp Arg Phe Gly Ser Asp Leu Gln Lys Ile Tyr Glu Ala		
130	135	140
Asn Ala Lys Arg Phe Ser Arg Lys Thr Val Leu Gln Leu Ser Leu Arg		
145	150	155
Ile Leu Asp Ile Leu Glu Tyr Ile His Glu His Glu Tyr Val His Gly		
165	170	175
Asp Ile Lys Ala Ser Asn Leu Leu Asn Tyr Lys Asn Pro Asp Gln		
180	185	190
Val Tyr Leu Val Asp Tyr Gly Leu Ala Tyr Arg Tyr Cys Pro Glu Gly		
195	200	205
Val His Lys Glu Tyr Lys Glu Asp Pro Lys Arg Cys His Asp Gly Thr		
210	215	220
Ile Glu Phe Thr Ser Ile Asp Ala His Asn Gly Val Ala Pro Ser Arg		
225	230	235
Arg Gly Asp Leu Glu Ile Leu Gly Tyr Cys Met Ile Gln Trp Leu Thr		
245	250	255
Gly His Leu Pro Trp Glu Asp Asn Leu Lys Asp Pro Lys Tyr Val Arg		
260	265	270
Asp Ser Lys Ile Arg Tyr Arg Glu Asn Ile Ala Ser Leu Met Asp Lys		

275	280	285
Cys Phe Pro Glu Lys Asn Lys Pro Gly Glu Ile Ala Lys Tyr Met Glu		
290	295	300
Thr Val Lys Leu Leu Asp Tyr Thr Glu Lys Pro Leu Tyr Glu Asn Leu		
305	310	315
Arg Asp Ile Leu Leu Gln Gly Leu Lys Ala Ile Gly Ser Lys Asp Asp		
325	330	335
Gly Lys Leu Asp Leu Ser Val Val Glu Asn Gly Gly Leu Lys Ala Lys		
340	345	350
Thr Ile Thr Lys Lys Arg Lys Lys Glu Ile Glu Glu Ser Lys Glu Pro		
355	360	365
Gly Val Glu Asp Thr Glu Trp Ser Asn Thr Gln Thr Glu Glu Ala Ile		
370	375	380
Gln Thr Arg Ser Arg Thr Arg Lys Arg Val Gln Lys		
385	390	395

<210> 11

<211> 297

<212> PRT

<213> Homo sapiens

<400> 11

Met Glu Asp Tyr Thr Lys Ile Glu Lys Ile Gly Glu Gly Thr Tyr Gly			
1	5	10	15
Val Val Tyr Lys Gly Arg His Lys Thr Thr Gly Gln Val Val Ala Met			
20	25	30	
Lys Lys Ile Arg Leu Glu Ser Glu Glu Gly Val Pro Ser Thr Ala			
35	40	45	
Ile Arg Glu Ile Ser Leu Leu Lys Glu Leu Arg His Pro Asn Ile Val			
50	55	60	
Ser Leu Gln Asp Val Leu Met Gln Asp Ser Arg Leu Tyr Leu Ile Phe			
65	70	75	80
Glu Phe Leu Ser Met Asp Leu Lys Lys Tyr Leu Asp Ser Ile Pro Pro			
85	90	95	
Gly Gln Tyr Met Asp Ser Ser Leu Val Lys Ser Tyr Leu Tyr Gln Ile			
100	105	110	
Leu Gln Gly Ile Val Phe Cys His Ser Arg Arg Val Leu His Arg Asp			
115	120	125	
Leu Lys Pro Gln Asn Leu Leu Ile Asp Asp Lys Gly Thr Ile Lys Leu			
130	135	140	
Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Ile Arg Val Tyr			
145	150	155	160
Thr His Glu Val Val Thr Leu Trp Tyr Arg Ser Pro Glu Val Leu Leu			
165	170	175	
Gly Ser Ala Arg Tyr Ser Thr Pro Val Asp Ile Trp Ser Ile Gly Thr			
180	185	190	
Ile Phe Ala Glu Leu Ala Thr Lys Lys Pro Leu Phe His Gly Asp Ser			
195	200	205	
Glu Ile Asp Gln Leu Phe Arg Ile Phe Arg Ala Leu Gly Thr Pro Asn			
210	215	220	
Asn Glu Val Trp Pro Glu Val Glu Ser Leu Gln Asp Tyr Lys Asn Thr			
225	230	235	240
Phe Pro Lys Trp Lys Pro Gly Ser Leu Ala Ser His Val Lys Asn Leu			
245	250	255	
Asp Glu Asn Gly Leu Asp Leu Leu Ser Lys Met Leu Ile Tyr Asp Pro			
260	265	270	
Ala Lys Arg Ile Ser Gly Lys Met Ala Leu Asn His Pro Tyr Phe Asn			

275	280	285													
Asp	Leu	Asp	Asn	Gln	Ile	Lys	Lys	Met							
290					295										
<210> 12															
<211> 403															
<212> PRT															
<213> Homo sapiens															
<400> 12															
Met	Asp	Arg	Ser	Lys	Glu	Asn	Cys	Ile	Ser	Gly	Pro	Val	Lys	Ala	Thr
1					5				10				15		
Ala	Pro	Val	Gly	Gly	Pro	Lys	Arg	Val	Leu	Val	Thr	Gln	Gln	Phe	Pro
					20				25				30		
Cys	Gln	Asn	Pro	Leu	Pro	Val	Asn	Ser	Gly	Gln	Ala	Gln	Arg	Val	Leu
					35			40				45			
Cys	Pro	Ser	Asn	Ser	Ser	Gln	Arg	Ile	Pro	Leu	Gln	Ala	Gln	Lys	Leu
					50			55				60			
Val	Ser	Ser	His	Lys	Pro	Val	Gln	Asn	Gln	Lys	Gln	Lys	Gln	Leu	Gln
					65			70			75			80	
Ala	Thr	Ser	Val	Pro	His	Pro	Val	Ser	Arg	Pro	Leu	Asn	Asn	Thr	Gln
					85				90				95		
Lys	Ser	Lys	Gln	Pro	Leu	Pro	Ser	Ala	Pro	Glu	Asn	Asn	Pro	Glu	Glu
					100			105				110			
Glu	Leu	Ala	Ser	Lys	Gln	Lys	Asn	Glu	Glu	Ser	Lys	Lys	Arg	Gln	Trp
					115			120				125			
Ala	Leu	Glu	Asp	Phe	Glu	Ile	Gly	Arg	Pro	Leu	Gly	Lys	Gly	Lys	Phe
					130			135				140			
Gly	Asn	Val	Tyr	Leu	Ala	Arg	Glu	Lys	Gln	Ser	Lys	Phe	Ile	Leu	Ala
					145			150				155			160
Leu	Lys	Val	Leu	Phe	Lys	Ala	Gln	Leu	Glu	Lys	Ala	Gly	Val	Glu	His
					165				170				175		
Gln	Leu	Arg	Arg	Glu	Val	Glu	Ile	Gln	Ser	His	Leu	Arg	His	Pro	Asn
					180				185				190		
Ile	Leu	Arg	Leu	Tyr	Gly	Tyr	Phe	His	Asp	Ala	Thr	Arg	Val	Tyr	Leu
					195				200				205		
Ile	Leu	Glu	Tyr	Ala	Pro	Leu	Gly	Thr	Val	Tyr	Arg	Glu	Leu	Gln	Lys
					210			215				220			
Leu	Ser	Lys	Phe	Asp	Glu	Gln	Arg	Thr	Ala	Thr	Tyr	Ile	Thr	Glu	Leu
					225			230				235			240
Ala	Asn	Ala	Leu	Ser	Tyr	Cys	His	Ser	Lys	Arg	Val	Ile	His	Arg	Asp
					245				250				255		
Ile	Lys	Pro	Glu	Asn	Leu	Leu	Gly	Ser	Ala	Gly	Glu	Leu	Lys	Ile	
					260			265				270			
Ala	Asp	Phe	Gly	Trp	Ser	Val	His	Ala	Pro	Ser	Ser	Arg	Arg	Thr	Thr
					275			280				285			
Leu	Cys	Gly	Thr	Leu	Asp	Tyr	Leu	Pro	Pro	Glu	Met	Ile	Glu	Gly	Arg
					290			295				300			
Met	His	Asp	Glu	Lys	Val	Asp	Leu	Trp	Ser	Leu	Gly	Val	Leu	Cys	Tyr
					305			310				315			320
Glu	Phe	Leu	Val	Gly	Lys	Pro	Pro	Phe	Glu	Ala	Asn	Thr	Tyr	Gln	Glu
					325				330				335		
Thr	Tyr	Lys	Arg	Ile	Ser	Arg	Val	Glu	Phe	Thr	Phe	Pro	Asp	Phe	Val
					340				345				350		
Thr	Glu	Gly	Ala	Arg	Asp	Leu	Ile	Ser	Arg	Leu	Leu	Lys	His	Asn	Pro
					355				360				365		
Ser	Gln	Arg	Pro	Met	Leu	Arg	Glu	Val	Leu	Glu	His	Pro	Trp	Ile	Thr

370	375	380
Ala Asn Ser Ser Lys Pro Ser Asn Cys Gln Asn Lys Glu Ser Ala Ser		
385	390	395
Lys Gln Ser		

<210> 13  
 <211> 344  
 <212> PRT  
 <213> Homo sapiens

<400> 13			
Met Ala Gln Lys Glu Asn Ser Tyr Pro Trp Pro Tyr Gly Arg Gln Thr			
1	5	10	15
Ala Pro Ser Gly Leu Ser Thr Leu Pro Gln Arg Val Leu Arg Lys Glu			
20	25	30	
Pro Val Thr Pro Ser Ala Leu Val Leu Met Ser Arg Ser Asn Val Gln			
35	40	45	
Pro Thr Ala Ala Pro Gly Gln Lys Val Met Glu Asn Ser Ser Gly Thr			
50	55	60	
Pro Asp Ile Leu Thr Arg His Phe Thr Ile Asp Asp Phe Glu Ile Gly			
65	70	75	80
Arg Pro Leu Gly Lys Gly Lys Phe Gly Asn Val Tyr Leu Ala Arg Glu			
85	90	95	
Lys Lys Ser His Phe Ile Val Ala Leu Lys Val Leu Phe Lys Ser Gln			
100	105	110	
Ile Glu Lys Glu Gly Val Glu His Gln Leu Arg Arg Glu Ile Glu Ile			
115	120	125	
Gln Ala His Leu His His Pro Asn Ile Leu Arg Leu Tyr Asn Tyr Phe			
130	135	140	
Tyr Asp Arg Arg Arg Ile Tyr Leu Ile Leu Glu Tyr Ala Pro Arg Gly			
145	150	155	160
Glu Leu Tyr Lys Glu Leu Gln Lys Ser Cys Thr Phe Asp Glu Gln Arg			
165	170	175	
Thr Ala Thr Ile Met Glu Glu Leu Ala Asp Ala Leu Met Tyr Cys His			
180	185	190	
Gly Lys Lys Val Ile His Arg Asp Ile Lys Pro Glu Asn Leu Leu Leu			
195	200	205	
Gly Leu Lys Gly Glu Leu Lys Ile Ala Asp Phe Gly Trp Ser Val His			
210	215	220	
Ala Pro Ser Leu Arg Arg Lys Thr Met Cys Gly Thr Leu Asp Tyr Leu			
225	230	235	240
Pro Pro Glu Met Ile Glu Gly Arg Met His Asn Glu Lys Val Asp Leu			
245	250	255	
Trp Cys Ile Gly Val Leu Cys Tyr Glu Leu Leu Val Gly Asn Pro Pro			
260	265	270	
Phe Glu Ser Ala Ser His Asn Glu Thr Tyr Arg Arg Ile Val Lys Val			
275	280	285	
Asp Leu Lys Phe Pro Ala Ser Val Pro Thr Gly Ala Gln Asp Leu Ile			
290	295	300	
Ser Lys Leu Leu Arg His Asn Pro Ser Glu Arg Leu Pro Leu Ala Gln			
305	310	315	320
Val Ser Ala His Pro Trp Val Arg Ala Asn Ser Arg Arg Val Leu Pro			
325	330	335	
Pro Ser Ala Leu Gln Ser Val Ala			
340			

<210> 14  
 <211> 745  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
 Met Glu Arg Pro Pro Gly Leu Arg Pro Gly Ala Gly Gly Pro Trp Glu  
   1              5                 10                 15  
 Met Arg Glu Arg Leu Gly Thr Gly Gly Phe Gly Asn Val Cys Leu Tyr  
   20             25                 30  
 Gln His Arg Glu Leu Asp Leu Lys Ile Ala Ile Lys Ser Cys Arg Leu  
   35             40                 45  
 Glu Leu Ser Thr Lys Asn Arg Glu Arg Trp Cys His Glu Ile Gln Ile  
   50             55                 60  
 Met Lys Lys Leu Asn His Ala Asn Val Val Lys Ala Cys Asp Val Pro  
   65             70                 75                 80  
 Glu Glu Leu Asn Ile Leu Ile His Asp Val Pro Leu Leu Ala Met Glu  
   85             90                 95  
 Tyr Cys Ser Gly Gly Asp Leu Arg Lys Leu Leu Asn Lys Pro Glu Asn  
   100            105             110  
 Cys Cys Gly Leu Lys Glu Ser Gln Ile Leu Ser Leu Leu Ser Asp Ile  
   115            120             125  
 Gly Ser Gly Ile Arg Tyr Leu His Glu Asn Lys Ile Ile His Arg Asp  
   130            135             140  
 Leu Lys Pro Glu Asn Ile Val Leu Gln Asp Val Gly Gly Lys Ile Ile  
   145            150             155             160  
 His Lys Ile Ile Asp Leu Gly Tyr Ala Lys Asp Val Asp Gln Gly Ser  
   165            170             175  
 Leu Cys Thr Ser Phe Val Gly Thr Leu Gln Tyr Leu Ala Pro Glu Leu  
   180            185             190  
 Phe Glu Asn Lys Pro Tyr Thr Ala Thr Val Asp Tyr Trp Ser Phe Gly  
   195            200             205  
 Thr Met Val Phe Glu Cys Ile Ala Gly Tyr Arg Pro Phe Leu His His  
   210            215             220  
 Leu Gln Pro Phe Thr Trp His Glu Lys Ile Lys Lys Lys Asp Pro Lys  
   225            230             235             240  
 Cys Ile Phe Ala Cys Glu Glu Met Ser Gly Glu Val Arg Phe Ser Ser  
   245            250             255  
 His Leu Pro Gln Pro Asn Ser Leu Cys Ser Leu Ile Val Glu Pro Met  
   260            265             270  
 Glu Asn Trp Leu Gln Leu Met Leu Asn Trp Asp Pro Gln Gln Arg Gly  
   275            280             285  
 Gly Pro Val Asp Leu Thr Leu Lys Gln Pro Arg Cys Phe Val Leu Met  
   290            295             300  
 Asp His Ile Leu Asn Leu Lys Ile Val His Ile Leu Asn Met Thr Ser  
   305            310             315             320  
 Ala Lys Ile Ile Ser Phe Leu Leu Pro Pro Asp Glu Ser Leu His Ser  
   325            330             335  
 Leu Gln Ser Arg Ile Glu Arg Glu Thr Gly Ile Asn Thr Gly Ser Gln  
   340            345             350  
 Glu Leu Leu Ser Glu Thr Gly Ile Ser Leu Asp Pro Arg Lys Pro Ala  
   355            360             365  
 Ser Gln Cys Val Leu Asp Gly Val Arg Gly Cys Asp Ser Tyr Met Val  
   370            375             380  
 Tyr Leu Phe Asp Lys Ser Lys Thr Val Tyr Glu Gly Pro Phe Ala Ser  
   385            390             395             400  
 Arg Ser Leu Ser Asp Cys Val Asn Tyr Ile Val Gln Asp Ser Lys Ile

	405	410	415												
Gln	Leu	Pro	Ile	Ile	Gln	Leu	Arg	Lys	Val	Trp	Ala	Glu	Ala	Val	His
	420				425										430
Tyr	Val	Ser	Gly	Leu	Lys	Glu	Asp	Tyr	Ser	Arg	Leu	Phe	Gln	Gly	Gln
	435				440										445
Arg	Ala	Ala	Met	Leu	Ser	Leu	Leu	Arg	Tyr	Asn	Ala	Asn	Leu	Thr	Lys
	450				455										460
Met	Lys	Asn	Thr	Leu	Ile	Ser	Ala	Ser	Gln	Gln	Leu	Lys	Ala	Lys	Leu
	465				470										480
Glu	Phe	Phe	His	Lys	Ser	Ile	Gln	Leu	Asp	Leu	Glu	Arg	Tyr	Ser	Glu
	485				490										495
Gln	Met	Thr	Tyr	Gly	Ile	Ser	Ser	Glu	Lys	Met	Leu	Lys	Ala	Trp	Lys
	500				505										510
Glu	Met	Glu	Glu	Lys	Ala	Ile	His	Tyr	Ala	Glu	Val	Gly	Val	Ile	Gly
	515				520										525
Tyr	Leu	Glu	Asp	Gln	Ile	Met	Ser	Leu	His	Ala	Glu	Ile	Met	Glu	Leu
	530				535										540
Gln	Lys	Ser	Pro	Tyr	Gly	Arg	Arg	Gln	Gly	Asp	Leu	Met	Glu	Ser	Leu
	545				550										560
Glu	Gln	Arg	Ala	Ile	Asp	Leu	Tyr	Lys	Gln	Leu	Lys	His	Arg	Pro	Ser
	565				570										575
Asp	His	Ser	Tyr	Ser	Asp	Ser	Thr	Glu	Met	Val	Lys	Ile	Ile	Val	His
	580				585										590
Thr	Val	Gln	Ser	Gln	Asp	Arg	Val	Leu	Lys	Glu	Leu	Phe	Gly	His	Leu
	595				600										605
Ser	Lys	Leu	Leu	Gly	Cys	Lys	Gln	Lys	Ile	Ile	Asp	Leu	Leu	Pro	Lys
	610				615										620
Val	Glu	Val	Ala	Leu	Ser	Asn	Ile	Lys	Glu	Ala	Asp	Asn	Thr	Val	Met
	625				630										640
Phe	Met	Gln	Gly	Lys	Arg	Gln	Lys	Glu	Ile	Trp	His	Leu	Leu	Lys	Ile
	645				650										655
Ala	Cys	Thr	Gln	Ser	Ser	Ala	Arg	Ser	Leu	Val	Gly	Ser	Ser	Leu	Glu
	660				665										670
Gly	Ala	Val	Thr	Pro	Gln	Thr	Ser	Ala	Trp	Leu	Pro	Pro	Thr	Ser	Ala
	675				680										685
Glu	His	Asp	His	Ser	Leu	Ser	Cys	Val	Val	Thr	Pro	Gln	Asp	Gly	Glu
	690				695										700
Thr	Ser	Ala	Gln	Met	Ile	Glu	Glu	Asn	Leu	Asn	Cys	Leu	Gly	His	Leu
	705				710										720
Ser	Thr	Ile	Ile	His	Glu	Ala	Asn	Glu	Glu	Gln	Gly	Asn	Ser	Met	Met
	725				730										735
Asn	Leu	Asp	Trp	Ser	Trp	Leu	Thr	Glu							
	740				745										

<210> 15  
 <211> 318  
 <212> PRT  
 <213> Homo sapiens

<400> 15  
 Met Ser Lys Pro Pro Ala Pro Asn Pro Thr Pro Pro Arg Asn Leu Asp  
 1 5 10 15  
 Ser Arg Thr Phe Ile Thr Ile Gly Asp Arg Asn Phe Glu Val Glu Ala  
 20 25 30  
 Asp Asp Leu Val Thr Ile Ser Glu Leu Gly Arg Gly Ala Tyr Gly Val  
 35 40 45  
 Val Glu Lys Val Arg His Ala Gln Ser Gly Thr Ile Met Ala Val Lys

50	55	60	
Arg Ile Arg Ala Thr Val Asn Ser Gln Glu Gln Lys Arg	Leu Leu Met		
65	70	75	80
Asp Leu Asp Ile Asn Met Arg Thr Val Asp Cys Phe Tyr	Thr Val Thr		
85	90	95	
Phe Tyr Gly Ala Leu Phe Arg Glu Gly Asp Val Trp Ile	Cys Met Glu		
100	105	110	
Leu Met Asp Thr Ser Leu Asp Lys Phe Tyr Arg Lys Val	Leu Asp Lys		
115	120	125	
Asn Met Thr Ile Pro Glu Asp Ile Leu Gly Glu Ile	Ala Val Ser Ile		
130	135	140	
Val Arg Ala Leu Glu His Leu His Ser Lys Leu Ser Val	Ile His Arg		
145	150	155	160
Asp Val Lys Pro Ser Asn Val Leu Ile Asn Lys Glu Gly	His Val Lys		
165	170	175	
Met Cys Asp Phe Gly Ile Ser Gly Tyr Leu Val Asp Ser	Val Ala Lys		
180	185	190	
Thr Met Asp Ala Gly Cys Lys Pro Tyr Met Ala Pro	Glu Arg Ile Asn		
195	200	205	
Pro Glu Leu Asn Gln Lys Gly Tyr Asn Val Lys Ser Asp	Val Trp Ser		
210	215	220	
Leu Gly Ile Thr Met Ile Glu Met Ala Ile Leu Arg	Phe Pro Tyr Glu		
225	230	235	240
Ser Trp Gly Thr Pro Phe Gln Gln Leu Lys Gln Val	Val Glu Glu Pro		
245	250	255	
Ser Pro Gln Leu Pro Ala Asp Arg Phe Ser Pro Glu	Phe Val Asp Phe		
260	265	270	
Thr Ala Gln Cys Leu Arg Lys Asn Pro Ala Glu Arg	Met Ser Tyr Leu		
275	280	285	
Glu Leu Met Glu His Pro Phe Phe Thr Leu His Lys	Thr Lys Lys Thr		
290	295	300	
Asp Ile Ala Ala Phe Val Lys Lys Ile Leu Gly Glu Asp	Ser		
305	310	315	

<210> 16

<211> 379

<212> PRT

<213> Homo sapiens

<400> 16

Met Ala Ala Ala Ala Ala Gln Gly Gly Gly Gly	Glu Pro Arg Arg		
1	5	10	15
Thr Glu Gly Val Gly Pro Gly Val Pro Gly	Glu Val Glu Met Val Lys		
20	25	30	
Gly Gln Pro Phe Asp Val Gly Pro Arg Tyr	Thr Gln Leu Gln Tyr Ile		
35	40	45	
Gly Glu Gly Ala Tyr Gly Met Val Ser Ser Ala	Tyr Asp His Val Arg		
50	55	60	
Lys Thr Arg Val Ala Ile Lys Lys Ile Ser Pro	Phe Glu His Gln Thr		
65	70	75	80
Tyr Cys Gln Arg Thr Leu Arg Glu Ile Gln Ile	Leu Leu Arg Phe Arg		
85	90	95	
His Glu Asn Val Ile Gly Ile Arg Asp Ile Leu Arg	Ala Ser Thr Leu		
100	105	110	
Glu Ala Met Arg Asp Val Tyr Ile Val Gln Asp	Leu Met Glu Thr Asp		
115	120	125	
Leu Tyr Lys Leu Leu Lys Ser Gln Gln Leu Ser Asn	Asp His Ile Cys		

130	135	140
Tyr Phe Leu Tyr Gln Ile Leu Arg Gly Leu Lys Tyr Ile His Ser Ala		
145	150	155
Asn Val Leu His Arg Asp Leu Lys Pro Ser Asn Leu Leu Ser Asn Thr		160
165	170	175
Thr Cys Asp Leu Lys Ile Cys Asp Phe Gly Leu Ala Arg Ile Ala Asp		
180	185	190
Pro Glu His Asp His Thr Gly Phe Leu Thr Glu Tyr Val Ala Thr Arg		
195	200	205
Trp Tyr Arg Ala Pro Glu Ile Met Leu Asn Ser Lys Gly Tyr Thr Lys		
210	215	220
Ser Ile Asp Ile Trp Ser Val Gly Cys Ile Leu Ala Glu Met Leu Ser		
225	230	235
Asn Arg Pro Ile Phe Pro Gly Lys His Tyr Leu Asp Gln Leu Asn His		240
245	250	255
Ile Leu Gly Ile Leu Gly Ser Pro Ser Gln Glu Asp Leu Asn Cys Ile		
260	265	270
Ile Asn Met Lys Ala Arg Asn Tyr Leu Gln Ser Leu Pro Ser Lys Thr		
275	280	285
Lys Val Ala Trp Ala Lys Leu Phe Pro Lys Ser Asp Ser Lys Ala Leu		
290	295	300
Asp Leu Leu Asp Arg Met Leu Thr Phe Asn Pro Asn Lys Arg Ile Thr		
305	310	315
Val Glu Glu Ala Leu Ala His Pro Tyr Leu Glu Gln Tyr Tyr Asp Pro		320
325	330	335
Thr Asp Glu Pro Val Ala Glu Glu Pro Phe Thr Phe Ala Met Glu Leu		
340	345	350
Asp Asp Leu Pro Lys Glu Arg Leu Lys Glu Leu Ile Phe Gln Glu Thr		
355	360	365
Ala Arg Phe Gln Pro Gly Val Leu Glu Ala Pro		
370	375	

<210> 17  
 <211> 648  
 <212> PRT  
 <213> Homo sapiens

<400> 17			
Met Glu His Ile Gln Gly Ala Trp Lys Thr Ile Ser Asn Gly Phe Gly			
1	5	10	15
Phe Lys Asp Ala Val Phe Asp Gly Ser Ser Cys Ile Ser Pro Thr Ile			
20	25	30	
Val Gln Gln Phe Gly Tyr Gln Arg Arg Ala Ser Asp Asp Gly Lys Leu			
35	40	45	
Thr Asp Pro Ser Lys Thr Ser Asn Thr Ile Arg Val Phe Leu Pro Asn			
50	55	60	
Lys Gln Arg Thr Val Val Asn Val Arg Asn Gly Met Ser Leu His Asp			
65	70	75	80
Cys Leu Met Lys Ala Leu Lys Val Arg Gly Leu Gln Pro Glu Cys Cys			
85	90	95	
Ala Val Phe Arg Leu Leu His Glu His Lys Gly Lys Lys Ala Arg Leu			
100	105	110	
Asp Trp Asn Thr Asp Ala Ala Ser Leu Ile Gly Glu Glu Leu Gln Val			
115	120	125	
Asp Phe Leu Asp His Val Pro Leu Thr Thr His Asn Phe Ala Arg Lys			
130	135	140	
Thr Phe Leu Lys Leu Ala Phe Cys Asp Ile Cys Gln Lys Phe Leu Leu			

145	150	155	160
Asn	Gly	Phe	Arg
Cys	Gln	Thr	Cys
165	170	175	
Tyr	Lys	Phe	His
180	185	190	
195	200	205	
Leu	Leu	Phe	Pro
Leu	Asn	Ser	Thr
195	200	205	
Leu	Pro	Ser	Leu
Leu	Thr	Met	Arg
195	200	205	
Leu	Pro	Ser	Leu
Leu	Thr	Met	Arg
195	200	205	
Pro	Val	Ser	Ser
Gln	His	Arg	Tyr
225	230	235	240
245	250	255	
Asn	Thr	Ser	Ser
Pro	Ser	Ser	Glu
245	250	255	
Ser	Thr	Ser	Pro
260	265	270	
Asp	Ser	Arg	Met
Ile	Glu	Asp	Ala
275	280	285	
Ser	Pro	Ser	Ala
Leu	Ser	Ser	Pro
290	295	300	
Trp	Ser	Gln	Pro
Lys	Thr	Pro	Val
305	310	315	320
Val	Ser	Gly	Thr
Gln	Glu	Lys	Asn
325	330	335	
Asp	Ser	Ser	Tyr
Tyr	Trp	Glu	Ile
340	345	350	
Thr	Arg	Ile	Gly
Ser	Gly	Ser	Phe
355	360	365	
His	Gly	Asp	Val
Ala	Val	Val	Lys
370	375	380	
Glu	Gln	Phe	Gln
385	390	395	400
Arg	His	Val	Asn
Ile	Leu	Leu	Phe
405	410	415	
Leu	Ala	Ile	Val
420	425	430	
Leu	His	Val	Gln
435	440	445	
Ala	Arg	Gln	Thr
450	455	460	
Ile	His	Arg	Asp
465	470	475	480
Thr	Val	Lys	Ile
Gly	Asp	Phe	Gly
485	490	495	
Ser	Gly	Ser	Gln
500	505	510	
Ala	Pro	Glu	Val
Ile	Arg	Met	Gln
515	520	525	
Ser	Asp	Val	Tyr
Tyr	Ser	Tyr	Gly
530	535	540	
Glu	Leu	Pro	Tyr
Ser	His	Ile	Asn
545	550	555	560
Val	Gly	Arg	Gly
Tyr	Ala	Ser	Pro
565	570	575	
Cys	Pro	Lys	Ala
580	585	590	
Lys	Glu	Glu	Arg
595	600	605	

Leu Gln His Ser Leu Pro Lys Ile Asn Arg Ser Ala Ser Glu Pro Ser  
 610 615 620  
 Leu His Arg Ala Ala His Thr Glu Asp Ile Asn Ala Cys Thr Leu Thr  
 625 630 635 640  
 Thr Ser Pro Arg Leu Pro Val Phe  
 645

<210> 18  
 <211> 480  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
 Met Ser Asp Val Ala Ile Val Lys Glu Gly Trp Leu His Lys Arg Gly  
 1 5 10 15  
 Glu Tyr Ile Lys Thr Trp Arg Pro Arg Tyr Phe Leu Leu Lys Asn Asp  
 20 25 30  
 Gly Thr Phe Ile Gly Tyr Lys Glu Arg Pro Gln Asp Val Asp Gln Arg  
 35 40 45  
 Glu Ala Pro Leu Asn Asn Phe Ser Val Ala Gln Cys Gln Leu Met Lys  
 50 55 60  
 Thr Glu Arg Pro Arg Pro Asn Thr Phe Ile Ile Arg Cys Leu Gln Trp  
 65 70 75 80  
 Thr Thr Val Ile Glu Arg Thr Phe His Val Glu Thr Pro Glu Glu Arg  
 85 90 95  
 Glu Glu Trp Thr Ala Ile Gln Thr Val Ala Asp Gly Leu Lys Lys  
 100 105 110  
 Gln Glu Glu Glu Met Asp Phe Arg Ser Gly Ser Pro Ser Asp Asn  
 115 120 125  
 Ser Gly Ala Glu Glu Met Glu Val Ser Leu Ala Lys Pro Lys His Arg  
 130 135 140  
 Val Thr Met Asn Glu Phe Glu Tyr Leu Lys Leu Leu Gly Lys Gly Thr  
 145 150 155 160  
 Phe Gly Lys Val Ile Leu Val Lys Glu Lys Ala Thr Gly Arg Tyr Tyr  
 165 170 175  
 Ala Met Lys Ile Leu Lys Lys Glu Val Ile Val Ala Lys Asp Glu Val  
 180 185 190  
 Ala His Thr Leu Thr Glu Asn Arg Val Leu Gln Asn Ser Arg His Pro  
 195 200 205  
 Phe Leu Thr Ala Leu Lys Tyr Ser Phe Gln Thr His Asp Arg Leu Cys  
 210 215 220  
 Phe Val Met Glu Tyr Ala Asn Gly Gly Glu Leu Phe Phe His Leu Ser  
 225 230 235 240  
 Arg Glu Arg Val Phe Ser Glu Asp Arg Ala Arg Phe Tyr Gly Ala Glu  
 245 250 255  
 Ile Val Ser Ala Leu Asp Tyr Leu His Ser Glu Lys Asn Val Val Tyr  
 260 265 270  
 Arg Asp Leu Lys Leu Glu Asn Leu Met Leu Asp Lys Asp Gly His Ile  
 275 280 285  
 Lys Ile Thr Asp Phe Gly Leu Cys Lys Glu Gly Ile Lys Asp Gly Ala  
 290 295 300  
 Thr Met Lys Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val  
 305 310 315 320  
 Leu Glu Asp Asn Asp Tyr Gly Arg Ala Val Asp Trp Trp Gly Leu Gly  
 325 330 335  
 Val Val Met Tyr Glu Met Met Cys Gly Arg Leu Pro Phe Tyr Asn Gln  
 340 345 350

Asp His Glu Lys Leu Phe Glu Leu Ile Leu Met Glu Glu Ile Arg Phe  
 355 360 365  
 Pro Arg Thr Leu Gly Pro Glu Ala Lys Ser Leu Leu Ser Gly Leu Leu  
 370 375 380  
 Lys Lys Asp Pro Lys Gln Arg Leu Gly Gly Ser Glu Asp Ala Lys  
 385 390 395 400  
 Glu Ile Met Gln His Arg Phe Phe Ala Gly Ile Val Trp Gln His Val  
 405 410 415  
 Tyr Glu Lys Lys Leu Ser Pro Pro Phe Lys Pro Gln Val Thr Ser Glu  
 420 425 430  
 Thr Asp Thr Arg Tyr Phe Asp Glu Glu Phe Thr Ala Gln Met Ile Thr  
 435 440 445  
 Ile Thr Pro Pro Asp Gln Asp Asp Ser Met Glu Cys Val Asp Ser Glu  
 450 455 460  
 Arg Arg Pro His Phe Pro Gln Phe Ser Tyr Ser Ala Ser Ser Thr Ala  
 465 470 475 480

&lt;210&gt; 19

&lt;211&gt; 724

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 19

Met Ser Ala Glu Gly Tyr Gln Tyr Arg Ala Leu Tyr Asp Tyr Lys Lys  
 1 5 10 15  
 Glu Arg Glu Glu Asp Ile Asp Leu His Leu Gly Asp Ile Leu Thr Val  
 20 25 30  
 Asn Lys Gly Ser Leu Val Ala Leu Gly Phe Ser Asp Gly Gln Glu Ala  
 35 40 45  
 Arg Pro Glu Glu Ile Gly Trp Leu Asn Gly Tyr Asn Glu Thr Thr Gly  
 50 55 60  
 Glu Arg Gly Asp Phe Pro Gly Thr Tyr Val Glu Tyr Ile Gly Arg Lys  
 65 70 75 80  
 Lys Ile Ser Pro Pro Thr Pro Lys Pro Arg Pro Pro Arg Pro Leu Pro  
 85 90 95  
 Val Ala Pro Gly Ser Ser Lys Thr Glu Ala Asp Val Glu Gln Gln Ala  
 100 105 110  
 Leu Thr Leu Pro Asp Leu Ala Glu Gln Phe Ala Pro Pro Asp Ile Ala  
 115 120 125  
 Pro Pro Leu Leu Ile Lys Leu Val Glu Ala Ile Glu Lys Lys Gly Leu  
 130 135 140  
 Glu Cys Ser Thr Leu Tyr Arg Thr Gln Ser Ser Ser Asn Leu Ala Glu  
 145 150 155 160  
 Leu Arg Gln Leu Leu Asp Cys Asp Thr Pro Ser Val Asp Leu Glu Met  
 165 170 175  
 Ile Asp Val His Val Leu Ala Asp Ala Phe Lys Arg Tyr Leu Leu Asp  
 180 185 190  
 Leu Pro Asn Pro Val Ile Pro Ala Ala Val Tyr Ser Glu Met Ile Ser  
 195 200 205  
 Leu Ala Pro Glu Val Gln Ser Ser Glu Glu Tyr Ile Gln Leu Leu Lys  
 210 215 220  
 Lys Leu Ile Arg Ser Pro Ser Ile Pro His Gln Tyr Trp Leu Thr Leu  
 225 230 235 240  
 Gln Tyr Leu Leu Lys His Phe Phe Lys Leu Ser Gln Thr Ser Ser Lys  
 245 250 255  
 Asn Leu Leu Asn Ala Arg Val Leu Ser Glu Ile Phe Ser Pro Met Leu  
 260 265 270

Phe Arg Phe Ser Ala Ala Ser Ser Asp Asn Thr Glu Asn Leu Ile Lys  
 275 280 285  
 Val Ile Glu Ile Leu Ile Ser Thr Glu Trp Asn Glu Arg Gln Pro Ala  
 290 295 300  
 Pro Ala Leu Pro Pro Lys Pro Pro Lys Pro Thr Thr Val Ala Asn Asn  
 305 310 315 320  
 Gly Met Asn Asn Asn Met Ser Leu Gln Asn Ala Glu Trp Tyr Trp Gly  
 325 330 335  
 Asp Ile Ser Arg Glu Glu Val Asn Glu Lys Leu Arg Asp Thr Ala Asp  
 340 345 350  
 Gly Thr Phe Leu Val Arg Asp Ala Ser Thr Lys Met His Gly Asp Tyr  
 355 360 365  
 Thr Leu Thr Leu Arg Lys Gly Gly Asn Asn Lys Leu Ile Lys Ile Phe  
 370 375 380  
 His Arg Asp Gly Lys Tyr Gly Phe Ser Asp Pro Leu Thr Phe Ser Ser  
 385 390 395 400  
 Val Val Glu Leu Ile Asn His Tyr Arg Asn Glu Ser Leu Ala Gln Tyr  
 405 410 415  
 Asn Pro Lys Leu Asp Val Lys Leu Leu Tyr Pro Val Ser Lys Tyr Gln  
 420 425 430  
 Gln Asp Gln Val Val Lys Glu Asp Asn Ile Glu Ala Val Gly Lys Lys  
 435 440 445  
 Leu His Glu Tyr Asn Thr Gln Phe Gln Glu Lys Ser Arg Glu Tyr Asp  
 450 455 460  
 Arg Leu Tyr Glu Glu Tyr Thr Arg Thr Ser Gln Glu Ile Gln Met Lys  
 465 470 475 480  
 Arg Thr Ala Ile Glu Ala Phe Asn Glu Thr Ile Lys Ile Phe Glu Glu  
 485 490 495  
 Gln Cys Gln Thr Gln Glu Arg Tyr Ser Lys Glu Tyr Ile Glu Lys Phe  
 500 505 510  
 Lys Arg Glu Gly Asn Glu Lys Glu Ile Gln Arg Ile Met His Asn Tyr  
 515 520 525  
 Asp Lys Leu Lys Ser Arg Ile Ser Glu Ile Ile Asp Ser Arg Arg Arg  
 530 535 540  
 Leu Glu Glu Asp Leu Lys Lys Gln Ala Ala Glu Tyr Arg Glu Ile Asp  
 545 550 555 560  
 Lys Arg Met Asn Ser Ile Lys Pro Asp Leu Ile Gln Leu Arg Lys Thr  
 565 570 575  
 Arg Asp Gln Tyr Leu Met Trp Leu Thr Gln Lys Gly Val Arg Gln Lys  
 580 585 590  
 Lys Leu Asn Glu Trp Leu Gly Asn Glu Asn Thr Glu Asp Gln Tyr Ser  
 595 600 605  
 Leu Val Glu Asp Asp Glu Asp Leu Pro His His Asp Glu Lys Thr Trp  
 610 615 620  
 Asn Val Gly Ser Ser Asn Arg Asn Lys Ala Glu Asn Leu Leu Arg Gly  
 625 630 635 640  
 Lys Arg Asp Gly Thr Phe Leu Val Arg Glu Ser Ser Lys Gln Gly Cys  
 645 650 655  
 Tyr Ala Cys Ser Val Val Val Asp Gly Glu Val Lys His Cys Val Ile  
 660 665 670  
 Asn Lys Thr Ala Thr Gly Tyr Gly Phe Ala Glu Pro Tyr Asn Leu Tyr  
 675 680 685  
 Ser Ser Leu Lys Glu Leu Val Leu His Tyr Gln His Thr Ser Leu Val  
 690 695 700  
 Gln His Asn Asp Ser Leu Asn Val Thr Leu Ala Tyr Pro Val Tyr Ala  
 705 710 715 720  
 Gln Gln Arg Arg

<210> 20  
 <211> 3056  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Ser Leu Val Leu Asn Asp Leu Leu Ile Cys Cys Arg Gln Leu Glu  
   1              5                  10                  15  
 His Asp Arg Ala Thr Glu Arg Lys Lys Glu Val Glu Lys Phe Lys Arg  
   20              25                  30  
 Leu Ile Arg Asp Pro Glu Thr Ile Lys His Leu Asp Arg His Ser Asp  
   35              40                  45  
 Ser Lys Gln Gly Lys Tyr Leu Asn Trp Asp Ala Val Phe Arg Phe Leu  
   50              55                  60  
 Gln Lys Tyr Ile Gln Lys Glu Thr Glu Cys Leu Arg Ile Ala Lys Pro  
   65              70                  75                  80  
 Asn Val Ser Ala Ser Thr Gln Ala Ser Arg Gln Lys Lys Met Gln Glu  
   85              90                  95  
 Ile Ser Ser Leu Val Lys Tyr Phe Ile Lys Cys Ala Asn Arg Arg Ala  
   100            105                  110  
 Pro Arg Leu Lys Cys Gln Glu Leu Leu Asn Tyr Ile Met Asp Thr Val  
   115            120                  125  
 Lys Asp Ser Ser Asn Gly Ala Ile Tyr Gly Ala Asp Cys Ser Asn Ile  
   130            135                  140  
 Leu Leu Lys Asp Ile Leu Ser Val Arg Lys Tyr Trp Cys Glu Ile Ser  
   145            150                  155                  160  
 Gln Gln Gln Trp Leu Glu Leu Phe Ser Val Tyr Phe Arg Leu Tyr Leu  
   165            170                  175  
 Lys Pro Ser Gln Asp Val His Arg Val Leu Val Ala Arg Ile Ile His  
   180            185                  190  
 Ala Val Thr Lys Gly Cys Cys Ser Gln Thr Asp Gly Leu Asn Ser Lys  
   195            200                  205  
 Phe Leu Asp Phe Phe Ser Lys Ala Ile Gln Cys Ala Arg Gln Glu Lys  
   210            215                  220  
 Ser Ser Ser Gly Leu Asn His Ile Leu Ala Ala Leu Thr Ile Phe Leu  
   225            230                  235                  240  
 Lys Thr Leu Ala Val Asn Phe Arg Ile Arg Val Cys Glu Leu Gly Asp  
   245            250                  255  
 Glu Ile Leu Pro Thr Leu Leu Tyr Ile Trp Thr Gln His Arg Leu Asn  
   260            265                  270  
 Asp Ser Leu Lys Glu Val Ile Ile Glu Leu Phe Gln Leu Gln Ile Tyr  
   275            280                  285  
 Ile His His Pro Lys Gly Ala Lys Thr Gln Glu Lys Gly Ala Tyr Glu  
   290            295                  300  
 Ser Thr Lys Trp Arg Ser Ile Leu Tyr Asn Leu Tyr Asp Leu Leu Val  
   305            310                  315                  320  
 Asn Glu Ile Ser His Ile Gly Ser Arg Gly Lys Tyr Ser Ser Gly Phe  
   325            330                  335  
 Arg Asn Ile Ala Val Lys Glu Asn Leu Ile Glu Leu Met Ala Asp Ile  
   340            345                  350  
 Cys His Gln Val Phe Asn Glu Asp Thr Arg Ser Leu Glu Ile Ser Gln  
   355            360                  365  
 Ser Tyr Thr Thr Thr Gln Arg Glu Ser Ser Asp Tyr Ser Val Pro Cys  
   370            375                  380  
 Lys Arg Lys Lys Ile Glu Leu Gly Trp Glu Val Ile Lys Asp His Leu



Val Glu Asp Gln Ser Ser Met Asn Leu Phe Asn Asp Tyr Pro Asp Ser  
 850 855 860  
 Ser Val Ser Asp Ala Asn Glu Pro Gly Glu Ser Gln Ser Thr Ile Gly  
 865 870 875 880  
 Ala Ile Asn Pro Leu Ala Glu Glu Tyr Leu Ser Lys Gln Asp Leu Leu  
 885 890 895  
 Phe Leu Asp Met Leu Lys Phe Leu Cys Leu Cys Val Thr Thr Ala Gln  
 900 905 910  
 Thr Asn Thr Val Ser Phe Arg Ala Ala Asp Ile Arg Arg Lys Leu Leu  
 915 920 925  
 Met Leu Ile Asp Ser Ser Thr Leu Glu Pro Thr Lys Ser Leu His Leu  
 930 935 940  
 His Met Tyr Leu Met Leu Leu Lys Glu Leu Pro Gly Glu Glu Tyr Pro  
 945 950 955 960  
 Leu Pro Met Glu Asp Val Leu Glu Leu Leu Lys Pro Leu Ser Asn Val  
 965 970 975  
 Cys Ser Leu Tyr Arg Arg Asp Gln Asp Val Cys Lys Thr Ile Leu Asn  
 980 985 990  
 His Val Leu His Val Val Lys Asn Leu Gly Gln Ser Asn Met Asp Ser  
 995 1000 1005  
 Glu Asn Thr Arg Asp Ala Gln Gly Gln Phe Leu Thr Val Ile Gly Ala  
 1010 1015 1020  
 Phe Trp His Leu Thr Lys Glu Arg Lys Tyr Ile Phe Ser Val Arg Met  
 1025 1030 1035 1040  
 Ala Leu Val Asn Cys Leu Lys Thr Leu Leu Glu Ala Asp Pro Tyr Ser  
 1045 1050 1055  
 Lys Trp Ala Ile Leu Asn Val Met Gly Lys Asp Phe Pro Val Asn Glu  
 1060 1065 1070  
 Val Phe Thr Gln Phe Leu Ala Asp Asn His His Gln Val Arg Met Leu  
 1075 1080 1085  
 Ala Ala Glu Ser Ile Asn Arg Leu Phe Gln Asp Thr Lys Gly Asp Ser  
 1090 1095 1100  
 Ser Arg Leu Leu Lys Ala Leu Pro Leu Lys Leu Gln Gln Thr Ala Phe  
 1105 1110 1115 1120  
 Glu Asn Ala Tyr Leu Lys Ala Gln Glu Gly Met Arg Glu Met Ser His  
 1125 1130 1135  
 Ser Ala Glu Asn Pro Glu Thr Leu Asp Glu Ile Tyr Asn Arg Lys Ser  
 1140 1145 1150  
 Val Leu Leu Thr Leu Ile Ala Val Val Leu Ser Cys Ser Pro Ile Cys  
 1155 1160 1165  
 Glu Lys Gln Ala Leu Phe Ala Leu Cys Lys Ser Val Lys Glu Asn Gly  
 1170 1175 1180  
 Leu Glu Pro His Leu Val Lys Val Leu Glu Lys Val Ser Glu Thr  
 1185 1190 1195 1200  
 Phe Gly Tyr Arg Arg Leu Glu Asp Phe Met Ala Ser His Leu Asp Tyr  
 1205 1210 1215  
 Leu Val Leu Glu Trp Leu Asn Leu Gln Asp Thr Glu Tyr Asn Leu Ser  
 1220 1225 1230  
 Ser Phe Pro Phe Ile Leu Leu Asn Tyr Thr Asn Ile Glu Asp Phe Tyr  
 1235 1240 1245  
 Arg Ser Cys Tyr Lys Val Leu Ile Pro His Leu Val Ile Arg Ser His  
 1250 1255 1260  
 Phe Asp Glu Val Lys Ser Ile Ala Asn Gln Ile Gln Glu Asp Trp Lys  
 1265 1270 1275 1280  
 Ser Leu Leu Thr Asp Cys Phe Pro Lys Ile Leu Val Asn Ile Leu Pro  
 1285 1290 1295  
 Tyr Phe Ala Tyr Glu Gly Thr Arg Asp Ser Gly Met Ala Gln Gln Arg

1300	1305	1310
Glu Thr Ala Thr Lys Val Tyr Asp Met Leu Lys Ser Glu Asn Leu Leu		
1315	1320	1325
Gly Lys Gln Ile Asp His Leu Phe Ile Ser Asn Leu Pro Glu Ile Val		
1330	1335	1340
Val Glu Leu Leu Met Thr Leu His Glu Pro Ala Asn Ser Ser Ala Ser		
1345	1350	1355
Gln Ser Thr Asp Leu Cys Asp Phe Ser Gly Asp Leu Asp Pro Ala Pro		1360
1365	1370	1375
Asn Pro Pro His Phe Pro Ser His Val Ile Lys Ala Thr Phe Ala Tyr		
1380	1385	1390
Ile Ser Asn Cys His Lys Thr Lys Leu Lys Ser Ile Leu Glu Ile Leu		
1395	1400	1405
Ser Lys Ser Pro Asp Ser Tyr Gln Lys Ile Leu Ala Ile Cys Glu		
1410	1415	1420
Gln Ala Ala Glu Thr Asn Asn Val Tyr Lys Lys His Arg Ile Leu Lys		
1425	1430	1435
Ile Tyr His Leu Phe Val Ser Leu Leu Lys Asp Ile Lys Ser Gly		1440
1445	1450	1455
Leu Gly Gly Ala Trp Ala Phe Val Leu Arg Asp Val Ile Tyr Thr Leu		
1460	1465	1470
Ile His Tyr Ile Asn Gln Arg Pro Ser Cys Ile Met Asp Val Ser Leu		
1475	1480	1485
Arg Ser Phe Ser Leu Cys Cys Asp Leu Leu Ser Gln Val Cys Gln Thr		
1490	1495	1500
Ala Val Thr Tyr Cys Lys Asp Ala Leu Glu Asn His Leu His Val Ile		
1505	1510	1515
Val Gly Thr Leu Ile Pro Leu Val Tyr Glu Gln Val Glu Val Gln Lys		1520
1525	1530	1535
Gln Val Leu Asp Leu Leu Lys Tyr Leu Val Ile Asp Asn Lys Asp Asn		
1540	1545	1550
Glu Asn Leu Tyr Ile Thr Ile Lys Leu Leu Asp Pro Phe Pro Asp His		
1555	1560	1565
Val Val Phe Lys Asp Leu Arg Ile Thr Gln Gln Lys Ile Lys Tyr Ser		
1570	1575	1580
Arg Gly Pro Phe Ser Leu Leu Glu Ile Asn His Phe Leu Ser Val		
1585	1590	1595
Ser Val Tyr Asp Ala Leu Pro Leu Thr Arg Leu Glu Gly Leu Lys Asp		1600
1605	1610	1615
Leu Arg Arg Gln Leu Glu Leu His Lys Asp Gln Met Val Asp Ile Met		
1620	1625	1630
Arg Ala Ser Gln Asp Asn Pro Gln Asp Gly Ile Met Val Lys Leu Val		
1635	1640	1645
Val Asn Leu Leu Gln Leu Ser Lys Met Ala Ile Asn His Thr Gly Glu		
1650	1655	1660
Lys Glu Val Leu Glu Ala Val Gly Ser Cys Leu Gly Glu Val Gly Pro		
1665	1670	1675
Ile Asp Phe Ser Thr Ile Ala Ile Gln His Ser Lys Asp Ala Ser Tyr		1680
1685	1690	1695
Thr Lys Ala Leu Lys Leu Phe Glu Asp Lys Glu Leu Gln Trp Thr Phe		
1700	1705	1710
Ile Met Leu Thr Tyr Leu Asn Asn Thr Leu Val Glu Asp Cys Val Lys		
1715	1720	1725
Val Arg Ser Ala Ala Val Thr Cys Leu Lys Asn Ile Leu Ala Thr Lys		
1730	1735	1740
Thr Gly His Ser Phe Trp Glu Ile Tyr Lys Met Thr Thr Asp Pro Met		
1745	1750	1755
		1760

Leu Ala Tyr Leu Gln Pro Phe Arg Thr Ser Arg Lys Lys Phe Leu Glu  
                   1765                 1770                 1775  
 Val Pro Arg Phe Asp Lys Glu Asn Pro Phe Glu Gly Leu Asp Asp Ile  
                   1780                 1785                 1790  
 Asn Leu Trp Ile Pro Leu Ser Glu Asn His Asp Ile Trp Ile Lys Thr  
                   1795                 1800                 1805  
 Leu Thr Cys Ala Phe Leu Asp Ser Gly Gly Thr Lys Cys Glu Ile Leu  
                   1810                 1815                 1820  
 Gln Leu Leu Lys Pro Met Cys Glu Val Lys Thr Asp Phe Cys Gln Thr  
                   1825                 1830                 1835                 1840  
 Val Leu Pro Tyr Leu Ile His Asp Ile Leu Leu Gln Asp Thr Asn Glu  
                   1845                 1850                 1855  
 Ser Trp Arg Asn Leu Leu Ser Thr His Val Gln Gly Phe Phe Thr Ser  
                   1860                 1865                 1870  
 Cys Leu Arg His Phe Ser Gln Thr Ser Arg Ser Thr Thr Pro Ala Asn  
                   1875                 1880                 1885  
 Leu Asp Ser Glu Ser Glu His Phe Phe Arg Cys Cys Leu Asp Lys Lys  
                   1890                 1895                 1900  
 Ser Gln Arg Thr Met Leu Ala Val Val Asp Tyr Met Arg Arg Gln Lys  
                   1905                 1910                 1915                 1920  
 Arg Pro Ser Ser Gly Thr Ile Phe Asn Asp Ala Phe Trp Leu Asp Leu  
                   1925                 1930                 1935  
 Asn Tyr Leu Glu Val Ala Lys Val Ala Gln Ser Cys Ala Ala His Phe  
                   1940                 1945                 1950  
 Thr Ala Leu Leu Tyr Ala Glu Ile Tyr Ala Asp Lys Lys Ser Met Asp  
                   1955                 1960                 1965  
 Asp Gln Glu Lys Arg Ser Leu Ala Phe Glu Glu Gly Ser Gln Ser Thr  
                   1970                 1975                 1980  
 Thr Ile Ser Ser Leu Ser Glu Lys Ser Lys Glu Glu Thr Gly Ile Ser  
                   1985                 1990                 1995                 2000  
 Leu Gln Asp Leu Leu Leu Glu Ile Tyr Arg Ser Ile Gly Glu Pro Asp  
                   2005                 2010                 2015  
 Ser Leu Tyr Gly Cys Gly Gly Lys Met Leu Gln Pro Ile Thr Arg  
                   2020                 2025                 2030  
 Leu Arg Thr Tyr Glu His Glu Ala Met Trp Gly Lys Ala Leu Val Thr  
                   2035                 2040                 2045  
 Tyr Asp Leu Glu Thr Ala Ile Pro Ser Ser Thr Arg Gln Ala Gly Ile  
                   2050                 2055                 2060  
 Ile Gln Ala Leu Gln Asn Leu Gly Leu Cys His Ile Leu Ser Val Tyr  
                   2065                 2070                 2075                 2080  
 Leu Lys Gly Leu Asp Tyr Glu Asn Lys Asp Trp Cys Pro Glu Leu Glu  
                   2085                 2090                 2095  
 Glu Leu His Tyr Gln Ala Ala Trp Arg Asn Met Gln Trp Asp His Cys  
                   2100                 2105                 2110  
 Thr Ser Val Ser Lys Glu Val Glu Gly Thr Ser Tyr His Glu Ser Leu  
                   2115                 2120                 2125  
 Tyr Asn Ala Leu Gln Ser Leu Arg Asp Arg Glu Phe Ser Thr Phe Tyr  
                   2130                 2135                 2140  
 Glu Ser Leu Lys Tyr Ala Arg Val Lys Glu Val Glu Glu Met Cys Lys  
                   2145                 2150                 2155                 2160  
 Arg Ser Leu Glu Ser Val Tyr Ser Leu Tyr Pro Thr Leu Ser Arg Leu  
                   2165                 2170                 2175  
 Gln Ala Ile Gly Glu Leu Glu Ser Ile Gly Glu Leu Phe Ser Arg Ser  
                   2180                 2185                 2190  
 Val Thr His Arg Gln Leu Ser Glu Val Tyr Ile Lys Trp Gln Lys His  
                   2195                 2200                 2205  
 Ser Gln Leu Leu Lys Asp Ser Asp Phe Ser Phe Gln Glu Pro Ile Met

2210	2215	2220	
Ala Leu Arg Thr Val Ile Leu Glu Ile Leu Met	Glu Lys Glu Met Asp		
2225	2230	2235	2240
Asn Ser Gln Arg Glu Cys Ile Lys Asp Ile Leu	Thr Lys His Leu Val		
2245	2250	2255	
Glu Leu Ser Ile Leu Ala Arg Thr Phe Lys Asn	Thr Gln Leu Pro Glu		
2260	2265	2270	
Arg Ala Ile Phe Gln Ile Lys Gln Tyr Asn Ser	Val Ser Cys Gly Val		
2275	2280	2285	
Ser Glu Trp Gln Leu Glu Ala Gln Val Phe Trp	Ala Lys Lys Glu		
2290	2295	2300	
Gln Ser Leu Ala Leu Ser Ile Leu Lys Gln Met	Ile Lys Lys Leu Asp		
2305	2310	2315	2320
Ala Ser Cys Ala Ala Asn Asn Pro Ser Leu Lys	Leu Thr Tyr Thr Glu		
2325	2330	2335	
Cys Leu Arg Val Cys Gly Asn Trp Leu Ala Glu	Thr Cys Leu Glu Asn		
2340	2345	2350	
Pro Ala Val Ile Met Gln Thr Tyr Leu Glu Lys	Ala Val Glu Val Ala		
2355	2360	2365	
Gly Asn Tyr Asp Gly Glu Ser Ser Asp Glu Leu	Arg Asn Gly Lys Met		
2370	2375	2380	
Lys Ala Phe Leu Ser Leu Ala Arg Phe Ser Asp	Thr Gln Tyr Gln Arg		
2385	2390	2395	2400
Ile Glu Asn Tyr Met Lys Ser Ser Glu Phe Glu	Asn Lys Gln Ala Leu		
2405	2410	2415	
Leu Lys Arg Ala Lys Glu Glu Val Gly Leu Leu	Arg Glu His Lys Ile		
2420	2425	2430	
Gln Thr Asn Arg Tyr Thr Val Lys Val Gln Arg	Glu Leu Glu Leu Asp		
2435	2440	2445	
Glu Leu Ala Leu Arg Ala Leu Lys Glu Asp Arg	Lys Arg Phe Leu Cys		
2450	2455	2460	
Lys Ala Val Glu Asn Tyr Ile Asn Cys Leu Leu	Ser Gly Glu Glu His		
2465	2470	2475	2480
Asp Met Trp Val Phe Arg Leu Cys Ser Leu Trp	Leu Glu Asn Ser Gly		
2485	2490	2495	
Val Ser Glu Val Asn Gly Met Met Lys Arg Asp	Gly Met Lys Ile Pro		
2500	2505	2510	
Thr Tyr Lys Phe Leu Pro Leu Met Tyr Gln Leu	Ala Ala Arg Met Gly		
2515	2520	2525	
Thr Lys Met Met Gly Gly Leu Gly Phe His Glu	Val Leu Asn Asn Leu		
2530	2535	2540	
Ile Ser Arg Ile Ser Met Asp His Pro His His	Thr Leu Phe Ile Ile		
2545	2550	2555	2560
Leu Ala Leu Ala Asn Ala Asn Arg Asp Glu	Phe Leu Thr Lys Pro Glu		
2565	2570	2575	
Val Ala Arg Arg Ser Arg Ile Thr Lys Asn Val	Pro Lys Gln Ser Ser		
2580	2585	2590	
Gln Leu Asp Glu Asp Arg Thr Glu Ala Ala Asn	Arg Ile Ile Cys Thr		
2595	2600	2605	
Ile Arg Ser Arg Arg Pro Gln Met Val Arg Ser	Val Glu Ala Leu Cys		
2610	2615	2620	
Asp Ala Tyr Ile Ile Leu Ala Asn Leu Asp Ala	Thr Gln Trp Lys Thr		
2625	2630	2635	2640
Gln Arg Lys Gly Ile Asn Ile Pro Ala Asp Gln	Pro Ile Thr Lys Leu		
2645	2650	2655	
Lys Asn Leu Glu Asp Val Val Val Pro Thr Met	Glu Ile Lys Val Asp		
2660	2665	2670	

His Thr Gly Glu Tyr Gly Asn Leu Val Thr Ile Gln Ser Phe Lys Ala  
 2675 2680 2685  
 Glu Phe Arg Leu Ala Gly Gly Val Asn Leu Pro Lys Ile Ile Asp Cys  
 2690 2695 2700  
 Val Gly Ser Asp Gly Lys Glu Arg Arg Gln Leu Val Lys Gly Arg Asp  
 2705 2710 2715 2720  
 Asp Leu Arg Gln Asp Ala Val Met Gln Gln Val Phe Gln Met Cys Asn  
 2725 2730 2735  
 Thr Leu Leu Gln Arg Asn Thr Glu Thr Arg Lys Arg Lys Leu Thr Ile  
 2740 2745 2750  
 Cys Thr Tyr Lys Val Val Pro Leu Ser Gln Arg Ser Gly Val Leu Glu  
 2755 2760 2765  
 Trp Cys Thr Gly Thr Val Pro Ile Gly Glu Phe Leu Val Asn Asn Glu  
 2770 2775 2780  
 Asp Gly Ala His Lys Arg Tyr Arg Pro Asn Asp Phe Ser Ala Phe Gln  
 2785 2790 2795 2800  
 Cys Gln Lys Lys Met Met Glu Val Gln Lys Lys Ser Phe Glu Glu Lys  
 2805 2810 2815  
 Tyr Glu Val Phe Met Asp Val Cys Gln Asn Phe Gln Pro Val Phe Arg  
 2820 2825 2830  
 Tyr Phe Cys Met Glu Lys Phe Leu Asp Pro Ala Ile Trp Phe Glu Lys  
 2835 2840 2845  
 Arg Leu Ala Tyr Thr Arg Ser Val Ala Thr Ser Ser Ile Val Gly Tyr  
 2850 2855 2860  
 Ile Leu Gly Leu Gly Asp Arg His Val Gln Asn Ile Leu Ile Asn Glu  
 2865 2870 2875 2880  
 Gln Ser Ala Glu Leu Val His Ile Asp Leu Gly Val Ala Phe Glu Gln  
 2885 2890 2895  
 Gly Lys Ile Leu Pro Thr Pro Glu Thr Val Pro Phe Arg Leu Thr Arg  
 2900 2905 2910  
 Asp Ile Val Asp Gly Met Gly Ile Thr Gly Val Glu Gly Val Phe Arg  
 2915 2920 2925  
 Arg Cys Cys Glu Lys Thr Met Glu Val Met Arg Asn Ser Gln Glu Thr  
 2930 2935 2940  
 Leu Leu Thr Ile Val Glu Val Leu Leu Tyr Asp Pro Leu Phe Asp Trp  
 2945 2950 2955 2960  
 Thr Met Asn Pro Leu Lys Ala Leu Tyr Leu Gln Gln Arg Pro Glu Asp  
 2965 2970 2975  
 Glu Thr Glu Leu His Pro Thr Leu Asn Ala Asp Asp Gln Glu Cys Lys  
 2980 2985 2990  
 Arg Asn Leu Ser Asp Ile Asp Gln Ser Phe Asp Lys Val Ala Glu Arg  
 2995 3000 3005  
 Val Leu Met Arg Leu Gln Glu Lys Leu Lys Gly Val Glu Glu Gly Thr  
 3010 3015 3020  
 Val Leu Ser Val Gly Gly Gln Val Asn Leu Leu Ile Gln Gln Ala Ile  
 3025 3030 3035 3040  
 Asp Pro Lys Asn Leu Ser Arg Leu Phe Pro Gly Trp Lys Ala Trp Val  
 3045 3050 3055

<210> 21  
 <211> 450  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
 Met Ser Ala Ile Gln Ala Ala Trp Pro Ser Gly Thr Glu Cys Ile Ala  
 1 5 10 15

Lys Tyr Asn Phe His Gly Thr Ala Glu Gln Asp Leu Pro Phe Cys Lys  
     20                 25                 30  
 Gly Asp Val Leu Thr Ile Val Ala Val Thr Lys Asp Pro Asn Trp Tyr  
     35                 40                 45  
 Lys Ala Lys Asn Lys Val Gly Arg Glu Gly Ile Ile Pro Ala Asn Tyr  
     50                 55                 60  
 Val Gln Lys Arg Glu Gly Val Lys Ala Gly Thr Lys Leu Ser Leu Met  
     65                 70                 75                 80  
 Pro Trp Phe His Gly Lys Ile Thr Arg Glu Gln Ala Glu Arg Leu Leu  
     85                 90                 95  
 Tyr Pro Pro Glu Thr Gly Leu Phe Leu Val Arg Glu Ser Thr Asn Tyr  
     100                105                110  
 Pro Gly Asp Tyr Thr Leu Cys Val Ser Cys Asp Gly Lys Val Glu His  
     115                120                125  
 Tyr Arg Ile Met Tyr His Ala Ser Lys Leu Ser Ile Asp Glu Glu Val  
     130                135                140  
 Tyr Phe Glu Asn Leu Met Gln Leu Val Glu His Tyr Thr Ser Asp Ala  
     145                150                155                160  
 Asp Gly Leu Cys Thr Arg Leu Ile Lys Pro Lys Val Met Glu Gly Thr  
     165                170                175  
 Val Ala Ala Gln Asp Glu Phe Tyr Arg Ser Gly Trp Ala Leu Asn Met  
     180                185                190  
 Lys Glu Leu Lys Leu Leu Gln Thr Ile Gly Lys Gly Glu Phe Gly Asp  
     195                200                205  
 Val Met Leu Gly Asp Tyr Arg Gly Asn Lys Val Ala Val Lys Cys Ile  
     210                215                220  
 Lys Asn Asp Ala Thr Ala Gln Ala Phe Leu Ala Glu Ala Ser Val Met  
     225                230                235                240  
 Thr Gln Leu Arg His Ser Asn Leu Val Gln Leu Leu Gly Val Ile Val  
     245                250                255  
 Glu Glu Lys Gly Gly Leu Tyr Ile Val Thr Glu Tyr Met Ala Lys Gly  
     260                265                270  
 Ser Leu Val Asp Tyr Leu Arg Ser Arg Gly Arg Ser Val Leu Gly Gly  
     275                280                285  
 Asp Cys Leu Leu Lys Phe Ser Leu Asp Val Cys Glu Ala Met Glu Tyr  
     290                295                300  
 Leu Glu Gly Asn Asn Phe Val His Arg Asp Leu Ala Ala Arg Asn Val  
     305                310                315                320  
 Leu Val Ser Glu Asp Asn Val Ala Lys Val Ser Asp Phe Gly Leu Thr  
     325                330                335  
 Lys Glu Ala Ser Ser Thr Gln Asp Thr Gly Lys Leu Pro Val Lys Trp  
     340                345                350  
 Thr Ala Pro Glu Ala Leu Arg Glu Lys Lys Phe Ser Thr Lys Ser Asp  
     355                360                365  
 Val Trp Ser Phe Gly Ile Leu Leu Trp Glu Ile Tyr Ser Phe Gly Arg  
     370                375                380  
 Val Pro Tyr Pro Arg Ile Pro Leu Lys Asp Val Val Pro Arg Val Glu  
     385                390                395                400  
 Lys Gly Tyr Lys Met Asp Ala Pro Asp Gly Cys Pro Pro Ala Val Tyr  
     405                410                415  
 Glu Val Met Lys Asn Cys Trp His Leu Asp Ala Ala Met Arg Pro Ser  
     420                425                430  
 Phe Leu Gln Leu Arg Glu Gln Leu Glu His Ile Lys Thr His Glu Leu  
     435                440                445  
 His Leu  
     450

<210> 22  
 <211> 1142  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Met Ala Phe Cys Ala Lys Met Arg Ser Ser Lys Lys Thr Glu Val Asn  
     1              5                 10                 15  
 Leu Glu Ala Pro Glu Pro Gly Val Glu Val Ile Phe Tyr Leu Ser Asp  
     20             25                 30  
 Arg Glu Pro Leu Arg Leu Gly Ser Gly Glu Tyr Thr Ala Glu Glu Leu  
     35             40                 45  
 Cys Ile Arg Ala Ala Gln Ala Cys Arg Ile Ser Pro Leu Cys His Asn  
     50             55                 60  
 Leu Phe Ala Leu Tyr Asp Glu Asn Thr Lys Leu Trp Tyr Ala Pro Asn  
     65             70                 75                 80  
 Arg Thr Ile Thr Val Asp Asp Lys Met Ser Leu Arg Leu His Tyr Arg  
     85             90                 95  
 Met Arg Phe Tyr Phe Thr Asn Trp His Gly Thr Asn Asp Asn Glu Gln  
     100            105                 110  
 Ser Val Trp Arg His Ser Pro Lys Lys Gln Lys Asn Gly Tyr Glu Lys  
     115            120                 125  
 Lys Lys Ile Pro Asp Ala Thr Pro Leu Leu Asp Ala Ser Ser Leu Glu  
     130            135                 140  
 Tyr Leu Phe Ala Gln Gly Gln Tyr Asp Leu Val Lys Cys Leu Ala Pro  
     145            150                 155                 160  
 Ile Arg Asp Pro Lys Thr Glu Gln Asp Gly His Asp Ile Glu Asn Glu  
     165            170                 175  
 Cys Leu Gly Met Ala Val Leu Ala Ile Ser His Tyr Ala Met Met Lys  
     180            185                 190  
 Lys Met Gln Leu Pro Glu Leu Pro Lys Asp Ile Ser Tyr Lys Arg Tyr  
     195            200                 205  
 Ile Pro Glu Thr Leu Asn Lys Ser Ile Arg Gln Arg Asn Leu Leu Thr  
     210            215                 220  
 Arg Met Arg Ile Asn Asn Val Phe Lys Asp Phe Leu Lys Glu Phe Asn  
     225            230                 235                 240  
 Asn Lys Thr Ile Cys Asp Ser Ser Val Ser Thr His Asp Leu Lys Val  
     245            250                 255  
 Lys Tyr Leu Ala Thr Leu Glu Thr Leu Thr Lys His Tyr Gly Ala Glu  
     260            265                 270  
 Ile Phe Glu Thr Ser Met Leu Leu Ile Ser Ser Glu Asn Glu Met Asn  
     275            280                 285  
 Trp Phe His Ser Asn Asp Gly Gly Asn Val Leu Tyr Tyr Glu Val Met  
     290            295                 300  
 Val Thr Gly Asn Leu Gly Ile Gln Trp Arg His Lys Pro Asn Val Val  
     305            310                 315                 320  
 Ser Val Glu Lys Glu Lys Asn Lys Leu Lys Arg Lys Lys Leu Glu Asn  
     325            330                 335  
 Lys Asp Lys Lys Asp Glu Glu Lys Asn Lys Ile Arg Glu Glu Trp Asn  
     340            345                 350  
 Asn Phe Ser Phe Phe Pro Glu Ile Thr His Ile Val Ile Lys Glu Ser  
     355            360                 365  
 Val Val Ser Ile Asn Lys Gln Asp Asn Lys Lys Met Glu Leu Lys Leu  
     370            375                 380  
 Ser Ser His Glu Glu Ala Leu Ser Phe Val Ser Leu Val Asp Gly Tyr  
     385            390                 395                 400  
 Phe Arg Leu Thr Ala Asp Ala His His Tyr Leu Cys Thr Asp Val Ala

405	410	415
Pro Pro Leu Ile Val His Asn Ile Gln Asn Gly Cys His Gly Pro Ile		
420	425	430
Cys Thr Glu Tyr Ala Ile Asn Lys Leu Arg Gln Glu Gly Ser Glu Glu		
435	440	445
Gly Met Tyr Val Leu Arg Trp Ser Cys Thr Asp Phe Asp Asn Ile Leu		
450	455	460
Met Thr Val Thr Cys Phe Glu Lys Ser Glu Gln Val Gln Gly Ala Gln		
465	470	475
Lys Gln Phe Lys Asn Phe Gln Ile Glu Val Gln Lys Gly Arg Tyr Ser		
485	490	495
Leu His Gly Ser Asp Arg Ser Phe Pro Ser Leu Gly Asp Leu Met Ser		
500	505	510
His Leu Lys Lys Gln Ile Leu Arg Thr Asp Asn Ile Ser Phe Met Leu		
515	520	525
Lys Arg Cys Cys Gln Pro Lys Pro Arg Glu Ile Ser Asn Leu Leu Val		
530	535	540
Ala Thr Lys Lys Ala Gln Glu Trp Gln Pro Val Tyr Pro Met Ser Gln		
545	550	555
Leu Ser Phe Asp Arg Ile Leu Lys Lys Asp Leu Val Gln Gly Glu His		
565	570	575
Leu Gly Arg Gly Thr Arg Thr His Ile Tyr Ser Gly Thr Leu Met Asp		
580	585	590
Tyr Lys Asp Asp Glu Gly Thr Ser Glu Glu Lys Lys Ile Lys Val Ile		
595	600	605
Leu Lys Val Leu Asp Pro Ser His Arg Asp Ile Ser Leu Ala Phe Phe		
610	615	620
Glu Ala Ala Ser Met Met Arg Gln Val Ser His Lys His Ile Val Tyr		
625	630	635
Leu Tyr Gly Val Cys Val Arg Asp Val Glu Asn Ile Met Val Glu Glu		
645	650	655
Phe Val Glu Gly Pro Leu Asp Leu Phe Met His Arg Lys Ser Asp		
660	665	670
Val Leu Thr Thr Pro Trp Lys Phe Lys Val Ala Lys Gln Leu Ala Ser		
675	680	685
Ala Leu Ser Tyr Leu Glu Asp Lys Asp Leu Val His Gly Asn Val Cys		
690	695	700
Thr Lys Asn Leu Leu Leu Ala Arg Glu Gly Ile Asp Ser Glu Cys Gly		
705	710	715
Pro Phe Ile Lys Leu Ser Asp Pro Gly Ile Pro Ile Thr Val Leu Ser		
725	730	735
Arg Gln Glu Cys Ile Glu Arg Ile Pro Trp Ile Ala Pro Glu Cys Val		
740	745	750
Glu Asp Ser Lys Asn Leu Ser Val Ala Ala Asp Lys Trp Ser Phe Gly		
755	760	765
Thr Thr Leu Trp Glu Ile Cys Tyr Asn Gly Glu Ile Pro Leu Lys Asp		
770	775	780
Lys Thr Leu Ile Glu Lys Glu Arg Phe Tyr Glu Ser Arg Cys Arg Pro		
785	790	795
Val Thr Pro Ser Cys Lys Glu Leu Ala Asp Leu Met Thr Arg Cys Met		
805	810	815
Asn Tyr Asp Pro Asn Gln Arg Pro Phe Phe Arg Ala Ile Met Arg Asp		
820	825	830
Ile Asn Lys Leu Glu Glu Gln Asn Pro Asp Ile Val Ser Arg Lys Lys		
835	840	845
Asn Gln Pro Thr Glu Val Asp Pro Thr His Phe Glu Lys Arg Phe Leu		
850	855	860

Lys Arg Ile Arg Asp Leu Gly Glu Gly His Phe Gly Lys Val Glu Leu  
 865 870 875 880  
 Cys Arg Tyr Asp Pro Glu Asp Asn Thr Gly Glu Gln Val Ala Val Lys  
 885 890 895  
 Ser Leu Lys Pro Glu Ser Gly Gly Asn His Ile Ala Asp Leu Lys Lys  
 900 905 910  
 Glu Ile Glu Ile Leu Arg Asn Leu Tyr His Glu Asn Ile Val Lys Tyr  
 915 920 925  
 Lys Gly Ile Cys Thr Glu Asp Gly Gly Asn Gly Ile Lys Leu Ile Met  
 930 935 940  
 Glu Phe Leu Pro Ser Gly Ser Leu Lys Glu Tyr Leu Pro Lys Asn Lys  
 945 950 955 960  
 Asn Lys Ile Asn Leu Lys Gln Gln Leu Lys Tyr Ala Val Gln Ile Cys  
 965 970 975  
 Lys Gly Met Asp Tyr Leu Gly Ser Arg Gln Tyr Val His Arg Asp Leu  
 980 985 990  
 Ala Ala Arg Asn Val Leu Val Glu Ser Glu His Gln Val Lys Ile Gly  
 995 1000 1005  
 Asp Phe Gly Leu Thr Lys Ala Ile Glu Thr Asp Lys Glu Tyr Tyr Thr  
 1010 1015 1020  
 Val Lys Asp Asp Arg Asp Ser Pro Val Phe Trp Tyr Ala Pro Glu Cys  
 1025 1030 1035 1040  
 Leu Met Gln Ser Lys Phe Tyr Ile Ala Ser Asp Val Trp Ser Phe Gly  
 1045 1050 1055  
 Val Thr Leu His Glu Leu Leu Thr Tyr Cys Asp Ser Asp Ser Ser Pro  
 1060 1065 1070  
 Met Ala Leu Phe Leu Lys Met Ile Gly Pro Thr His Gly Gln Met Thr  
 1075 1080 1085  
 Val Thr Arg Leu Val Asn Thr Leu Lys Glu Gly Lys Arg Leu Pro Cys  
 1090 1095 1100  
 Pro Pro Asn Cys Pro Asp Glu Val Tyr Gln Leu Met Arg Lys Cys Trp  
 1105 1110 1115 1120  
 Glu Phe Gln Pro Ser Asn Arg Thr Ser Phe Gln Asn Leu Ile Glu Gly  
 1125 1130 1135  
 Phe Glu Ala Leu Leu Lys  
 1140

<210> 23  
 <211> 1338  
 <212> PRT  
 <213> Homo sapiens

<400> 23

Met Val Ser Tyr Trp Asp Thr Gly Val Leu Leu Cys Ala Leu Leu Ser  
 1 5 10 15  
 Cys Leu Leu Leu Thr Gly Ser Ser Ser Gly Ser Lys Leu Lys Asp Pro  
 20 25 30  
 Glu Leu Ser Leu Lys Gly Thr Gln His Ile Met Gln Ala Gly Gln Thr  
 35 40 45  
 Leu His Leu Gln Cys Arg Gly Glu Ala Ala His Lys Trp Ser Leu Pro  
 50 55 60  
 Glu Met Val Ser Lys Glu Ser Glu Arg Leu Ser Ile Thr Lys Ser Ala  
 65 70 75 80  
 Cys Gly Arg Asn Gly Lys Gln Phe Cys Ser Thr Leu Thr Leu Asn Thr  
 85 90 95  
 Ala Gln Ala Asn His Thr Gly Phe Tyr Ser Cys Lys Tyr Leu Ala Val  
 100 105 110

Pro Thr Ser Lys Lys Glu Thr Glu Ser Ala Ile Tyr Ile Phe Ile  
 115 120 125  
 Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu  
 130 135 140  
 Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val  
 145 150 155 160  
 Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr  
 165 170 175  
 Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe  
 180 185 190  
 Ile Ile Ser Asn Ala Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu  
 195 200 205  
 Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg  
 210 215 220  
 Gln Thr Asn Thr Ile Ile Asp Val Gln Ile Ser Thr Pro Arg Pro Val  
 225 230 235 240  
 Lys Leu Leu Arg Gly His Thr Leu Val Leu Asn Cys Thr Ala Thr Thr  
 245 250 255  
 Pro Leu Asn Thr Arg Val Gln Met Thr Trp Ser Tyr Pro Asp Glu Lys  
 260 265 270  
 Asn Lys Arg Ala Ser Val Arg Arg Ile Asp Gln Ser Asn Ser His  
 275 280 285  
 Ala Asn Ile Phe Tyr Ser Val Leu Thr Ile Asp Lys Met Gln Asn Lys  
 290 295 300  
 Asp Lys Gly Leu Tyr Thr Cys Arg Val Arg Ser Gly Pro Ser Phe Lys  
 305 310 315 320  
 Ser Val Asn Thr Ser Val His Ile Tyr Asp Lys Ala Phe Ile Thr Val  
 325 330 335  
 Lys His Arg Lys Gln Gln Val Leu Glu Thr Val Ala Gly Lys Arg Ser  
 340 345 350  
 Tyr Arg Leu Ser Met Lys Val Lys Ala Phe Pro Ser Pro Glu Val Val  
 355 360 365  
 Trp Leu Lys Asp Gly Leu Pro Ala Thr Glu Lys Ser Ala Arg Tyr Leu  
 370 375 380  
 Thr Arg Gly Tyr Ser Leu Ile Ile Lys Asp Val Thr Glu Glu Asp Ala  
 385 390 395 400  
 Gly Asn Tyr Thr Ile Leu Leu Ser Ile Lys Gln Ser Asn Val Phe Lys  
 405 410 415  
 Asn Leu Thr Ala Thr Leu Ile Val Asn Val Lys Pro Gln Ile Tyr Glu  
 420 425 430  
 Lys Ala Val Ser Ser Phe Pro Asp Pro Ala Leu Tyr Pro Leu Gly Ser  
 435 440 445  
 Arg Gln Ile Leu Thr Cys Thr Ala Tyr Gly Ile Pro Gln Pro Thr Ile  
 450 455 460  
 Lys Trp Phe Trp His Pro Cys Asn His Asn His Ser Glu Ala Arg Cys  
 465 470 475 480  
 Asp Phe Cys Ser Asn Asn Glu Glu Ser Phe Ile Leu Asp Ala Asp Ser  
 485 490 495  
 Asn Met Gly Asn Arg Ile Glu Ser Ile Thr Gln Arg Met Ala Ile Ile  
 500 505 510  
 Glu Gly Lys Asn Lys Met Ala Ser Thr Leu Val Val Ala Asp Ser Arg  
 515 520 525  
 Ile Ser Gly Ile Tyr Ile Cys Ile Ala Ser Asn Lys Val Gly Thr Val  
 530 535 540  
 Gly Arg Asn Ile Ser Phe Tyr Ile Thr Asp Val Pro Asn Gly Phe His  
 545 550 555 560  
 Val Asn Leu Glu Lys Met Pro Thr Glu Gly Glu Asp Leu Lys Leu Ser

565	570	575	
Cys Thr Val Asn Lys Phe Leu Tyr Arg Asp Val Thr Trp Ile Leu Leu			
580	585	590	
Arg Thr Val Asn Asn Arg Thr Met His Tyr Ser Ile Ser Lys Gln Lys			
595	600	605	
Met Ala Ile Thr Lys Glu His Ser Ile Thr Leu Asn Leu Thr Ile Met			
610	615	620	
Asn Val Ser Leu Gln Asp Ser Gly Thr Tyr Ala Cys Arg Ala Arg Asn			
625	630	635	640
Val Tyr Thr Gly Glu Glu Ile Leu Gln Lys Lys Glu Ile Thr Ile Arg			
645	650	655	
Asp Gln Glu Ala Pro Tyr Leu Leu Arg Asn Leu Ser Asp His Thr Val			
660	665	670	
Ala Ile Ser Ser Ser Thr Thr Leu Asp Cys His Ala Asn Gly Val Pro			
675	680	685	
Glu Pro Gln Ile Thr Trp Phe Lys Asn Asn His Lys Ile Gln Gln Glu			
690	695	700	
Pro Gly Ile Ile Leu Gly Pro Gly Ser Ser Thr Leu Phe Ile Glu Arg			
705	710	715	720
Val Thr Glu Glu Asp Glu Gly Val Tyr His Cys Lys Ala Thr Asn Gln			
725	730	735	
Lys Gly Ser Val Glu Ser Ser Ala Tyr Leu Thr Val Gln Gly Thr Ser			
740	745	750	
Asp Lys Ser Asn Leu Glu Leu Ile Thr Leu Thr Cys Thr Cys Val Ala			
755	760	765	
Ala Thr Leu Phe Trp Leu Leu Leu Thr Leu Leu Ile Arg Lys Met Lys			
770	775	780	
Arg Ser Ser Ser Glu Ile Lys Thr Asp Tyr Leu Ser Ile Ile Met Asp			
785	790	795	800
Pro Asp Glu Val Pro Leu Asp Glu Gln Cys Glu Arg Leu Pro Tyr Asp			
805	810	815	
Ala Ser Lys Trp Glu Phe Ala Arg Glu Arg Leu Lys Leu Gly Lys Ser			
820	825	830	
Leu Gly Arg Gly Ala Phe Gly Lys Val Val Gln Ala Ser Ala Phe Gly			
835	840	845	
Ile Lys Lys Ser Pro Thr Cys Arg Thr Val Ala Val Lys Met Leu Lys			
850	855	860	
Glu Gly Ala Thr Ala Ser Glu Tyr Lys Ala Leu Met Thr Glu Leu Lys			
865	870	875	880
Ile Leu Thr His Ile Gly His His Leu Asn Val Val Asn Leu Leu Gly			
885	890	895	
Ala Cys Thr Lys Gln Gly Gly Pro Leu Met Val Ile Val Glu Tyr Cys			
900	905	910	
Lys Tyr Gly Asn Leu Ser Asn Tyr Leu Lys Ser Lys Arg Asp Leu Phe			
915	920	925	
Phe Leu Asn Lys Asp Ala Ala Leu His Met Glu Pro Lys Lys Glu Lys			
930	935	940	
Met Glu Pro Gly Leu Glu Gln Gly Lys Lys Pro Arg Leu Asp Ser Val			
945	950	955	960
Thr Ser Ser Glu Ser Phe Ala Ser Ser Gly Phe Gln Glu Asp Lys Ser			
965	970	975	
Leu Ser Asp Val Glu Glu Glu Asp Ser Asp Gly Phe Tyr Lys Glu			
980	985	990	
Pro Ile Thr Met Glu Asp Leu Ile Ser Tyr Ser Phe Gln Val Ala Arg			
995	1000	1005	
Gly Met Glu Phe Leu Ser Ser Arg Lys Cys Ile His Arg Asp Leu Ala			
1010	1015	1020	

Ala Arg Asn Ile Leu Leu Ser Glu Asn Asn Val Val Lys Ile Cys Asp  
 1025 1030 1035 1040  
 Phe Gly Leu Ala Arg Asp Ile Tyr Lys Asn Pro Asp Tyr Val Arg Lys  
 1045 1050 1055  
 Gly Asp Thr Arg Leu Pro Leu Lys Trp Met Ala Pro Glu Ser Ile Phe  
 1060 1065 1070  
 Asp Lys Ile Tyr Ser Thr Lys Ser Asp Val Trp Ser Tyr Gly Val Leu  
 1075 1080 1085  
 Leu Trp Glu Ile Phe Ser Leu Gly Gly Ser Pro Tyr Pro Gly Val Gln  
 1090 1095 1100  
 Met Asp Glu Asp Phe Cys Ser Arg Leu Arg Glu Gly Met Arg Met Arg  
 1105 1110 1115 1120  
 Ala Pro Glu Tyr Ser Thr Pro Glu Ile Tyr Gln Ile Met Leu Asp Cys  
 1125 1130 1135  
 Trp His Arg Asp Pro Lys Glu Arg Pro Arg Phe Ala Glu Leu Val Glu  
 1140 1145 1150  
 Lys Leu Gly Asp Leu Leu Gln Ala Asn Val Gln Gln Asp Gly Lys Asp  
 1155 1160 1165  
 Tyr Ile Pro Ile Asn Ala Ile Leu Thr Gly Asn Ser Gly Phe Thr Tyr  
 1170 1175 1180  
 Ser Thr Pro Ala Phe Ser Glu Asp Phe Phe Lys Glu Ser Ile Ser Ala  
 1185 1190 1195 1200  
 Pro Lys Phe Asn Ser Gly Ser Ser Asp Asp Val Arg Tyr Val Asn Ala  
 1205 1210 1215  
 Phe Lys Phe Met Ser Leu Glu Arg Ile Lys Thr Phe Glu Glu Leu Leu  
 1220 1225 1230  
 Pro Asn Ala Thr Ser Met Phe Asp Asp Tyr Gln Gly Asp Ser Ser Thr  
 1235 1240 1245  
 Leu Leu Ala Ser Pro Met Leu Lys Arg Phe Thr Trp Thr Asp Ser Lys  
 1250 1255 1260  
 Pro Lys Ala Ser Leu Lys Ile Asp Leu Arg Val Thr Ser Lys Ser Lys  
 1265 1270 1275 1280  
 Glu Ser Gly Leu Ser Asp Val Ser Arg Pro Ser Phe Cys His Ser Ser  
 1285 1290 1295  
 Cys Gly His Val Ser Glu Gly Lys Arg Arg Phe Thr Tyr Asp His Ala  
 1300 1305 1310  
 Glu Leu Glu Arg Lys Ile Ala Cys Cys Ser Pro Pro Pro Asp Tyr Asn  
 1315 1320 1325  
 Ser Val Val Leu Tyr Ser Thr Pro Pro Ile  
 1330 1335

&lt;210&gt; 24

&lt;211&gt; 309

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 24

Met Asp Glu Lys Val Phe Thr Lys Glu Leu Asp Gln Trp Ile Glu Gln  
 1 5 10 15  
 Leu Asn Glu Cys Lys Gln Leu Ser Glu Ser Gln Val Lys Ser Leu Cys  
 20 25 30  
 Glu Lys Ala Lys Glu Ile Leu Thr Lys Glu Ser Asn Val Gln Glu Val  
 35 40 45  
 Arg Cys Pro Val Thr Val Cys Gly Asp Val His Gly Gln Phe His Asp  
 50 55 60  
 Leu Met Glu Leu Phe Arg Ile Gly Gly Lys Ser Pro Asp Thr Asn Tyr  
 65 70 75 80

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<210> 25
<211> 394
<212> PRT
<213> Homo sapiens

<400> 25
Met Val Thr Met Glu Glu Leu Arg Glu Met Asp Cys Ser Val Leu Lys
 1           5           10           15
Arg Leu Met Asn Arg Asp Glu Asn Gly Gly Gly Ala Gly Gly Ser Gly
 20           25           30
Ser His Gly Thr Leu Gly Leu Pro Ser Gly Gly Lys Cys Leu Leu Leu
 35           40           45
Asp Cys Arg Pro Phe Leu Ala His Ser Ala Gly Tyr Ile Leu Gly Ser
 50           55           60
Val Asn Val Arg Cys Asn Thr Ile Val Arg Arg Arg Ala Lys Gly Ser
 65           70           75           80
Val Ser Leu Glu Gln Ile Leu Pro Ala Glu Glu Glu Val Arg Ala Arg
 85           90           95
Leu Arg Ser Gly Leu Tyr Ser Ala Val Ile Val Tyr Asp Glu Gly Ser
100          105          110
Pro Arg Ala Glu Ser Leu Arg Glu Asp Ser Thr Val Ser Leu Val Val
115          120          125
Gln Ala Leu Arg Arg Asn Ala Glu Arg Thr Asp Ile Cys Leu Leu Lys
130          135          140
Gly Gly Tyr Glu Arg Phe Ser Ser Glu Tyr Pro Glu Phe Cys Ser Lys
145          150          155          160

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Thr Lys Ala Leu Ala Ala Ile Pro Pro Pro Val Pro Pro Ser Ala Thr  
                   165                 170                 175  
 Glu Pro Leu Asp Leu Gly Cys Ser Ser Cys Gly Thr Pro Leu His Asp  
                   180                 185                 190  
 Gln Gly Gly Pro Val Glu Ile Leu Pro Phe Leu Tyr Leu Gly Ser Ala  
                   195                 200                 205  
 Tyr His Ala Ala Arg Arg Asp Met Leu Asp Ala Leu Gly Ile Thr Ala  
                   210                 215                 220  
 Leu Leu Asn Val Ser Ser Asp Cys Pro Asn His Phe Glu Gly His Tyr  
                   225                 230                 235                 240  
 Gln Tyr Lys Cys Ile Pro Val Glu Asp Asn His Lys Ala Asp Ile Ser  
                   245                 250                 255  
 Ser Trp Phe Met Glu Ala Ile Glu Tyr Ile Asp Ala Val Lys Asp Cys  
                   260                 265                 270  
 Arg Gly Arg Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala  
                   275                 280                 285  
 Thr Ile Cys Leu Ala Tyr Leu Met Met Lys Lys Arg Val Arg Leu Glu  
                   290                 295                 300  
 Glu Ala Phe Glu Phe Val Lys Gln Arg Arg Ser Ile Ile Ser Pro Asn  
                   305                 310                 315                 320  
 Phe Ser Phe Met Gly Gln Leu Leu Gln Phe Glu Ser Gln Val Leu Ala  
                   325                 330                 335  
 Thr Ser Cys Ala Ala Glu Ala Ala Ser Pro Ser Gly Pro Leu Arg Glu  
                   340                 345                 350  
 Arg Gly Lys Thr Pro Ala Thr Pro Thr Ser Gln Phe Val Phe Ser Phe  
                   355                 360                 365  
 Pro Val Ser Val Gly Val His Ser Ala Pro Ser Ser Leu Pro Tyr Leu  
                   370                 375                 380  
 His Ser Pro Ile Thr Thr Ser Pro Ser Cys  
                   385                 390

<210> 26

<211> 185

<212> PRT

<213> Homo sapiens

<400> 26

Met Ser Gly Ser Phe Glu Leu Ser Val Gln Asp Leu Asn Asp Leu Leu  
   1                  5                 10                 15  
 Ser Asp Gly Ser Gly Cys Tyr Ser Leu Pro Ser Gln Pro Cys Asn Glu  
                   20                 25                 30  
 Val Thr Pro Arg Ile Tyr Val Gly Asn Ala Ser Val Ala Gln Asp Ile  
                   35                 40                 45  
 Pro Lys Leu Gln Lys Leu Gly Ile Thr His Val Leu Asn Ala Ala Glu  
                   50                 55                 60  
 Gly Arg Ser Phe Met His Val Asn Thr Asn Ala Asn Phe Tyr Lys Asp  
                   65                 70                 75                 80  
 Ser Gly Ile Thr Tyr Leu Gly Ile Lys Ala Asn Asp Thr Gln Glu Phe  
                   85                 90                 95  
 Asn Leu Ser Ala Tyr Phe Glu Arg Ala Ala Asp Phe Ile Asp Gln Ala  
                   100                 105                 110  
 Leu Ala Gln Lys Asn Gly Arg Val Leu Val His Cys Arg Glu Gly Tyr  
                   115                 120                 125  
 Ser Arg Ser Pro Thr Leu Val Ile Ala Tyr Leu Met Met Arg Gln Lys  
                   130                 135                 140  
 Met Asp Val Lys Ser Ala Leu Ser Ile Val Arg Gln Asn Arg Glu Ile  
                   145                 150                 155                 160

Gly Pro Asn Asp Gly Phe Leu Ala Gln Leu Cys Gln Leu Asn Asp Arg			
165	170	175	
Leu Ala Lys Glu Gly Lys Leu Lys Pro			
180	185		

<210> 27

<211> 657

<212> PRT

<213> Homo sapiens

<400> 27

Met Arg Arg Ala Val Cys Phe Pro Ala Leu Cys Leu Leu Asn Leu			
1	5	10	15
His Ala Ala Gly Cys Phe Ser Gly Asn Asn Asp His Phe Leu Ala Ile			
20	25	30	
Asn Gln Lys Lys Ser Gly Lys Pro Val Phe Ile Tyr Lys His Ser Gln			
35	40	45	
Asp Ile Glu Lys Ser Leu Asp Ile Ala Pro Gln Lys Ile Tyr Arg His			
50	55	60	
Ser Tyr His Ser Ser Ser Glu Ala Gln Val Ser Lys Arg His Gln Ile			
65	70	75	80
Val Asn Ser Ala Phe Pro Arg Pro Ala Tyr Asp Pro Ser Leu Asn Leu			
85	90	95	
Leu Ala Met Asp Gly Gln Asp Leu Glu Val Glu Asn Leu Pro Ile Pro			
100	105	110	
Ala Ala Asn Val Ile Val Val Thr Leu Gln Met Asp Val Asn Lys Leu			
115	120	125	
Asn Ile Thr Leu Leu Arg Ile Phe Arg Gln Gly Val Ala Ala Ala Leu			
130	135	140	
Gly Leu Leu Pro Gln Gln Val His Ile Asn Arg Leu Ile Gly Lys Lys			
145	150	155	160
Asn Ser Ile Glu Leu Phe Val Ser Pro Ile Asn Arg Lys Thr Gly Ile			
165	170	175	
Ser Asp Ala Leu Pro Ser Glu Glu Val Leu Arg Ser Leu Asn Ile Asn			
180	185	190	
Val Leu His Gln Ser Leu Ser Gln Phe Gly Ile Thr Glu Val Ser Pro			
195	200	205	
Glu Lys Asn Val Leu Gln Gly Gln His Glu Ala Asp Lys Ile Trp Ser			
210	215	220	
Lys Glu Gly Phe Tyr Ala Val Val Ile Phe Leu Ser Ile Phe Val Ile			
225	230	235	240
Ile Val Thr Cys Leu Met Ile Leu Tyr Arg Leu Lys Glu Arg Phe Gln			
245	250	255	
Leu Ser Leu Arg Gln Asp Lys Glu Lys Asn Gln Glu Ile His Leu Ser			
260	265	270	
Pro Ile Thr Leu Gln Pro Ala Leu Ser Glu Ala Lys Thr Val His Ser			
275	280	285	
Met Val Gln Pro Glu Gln Ala Pro Lys Val Leu Asn Val Val Val Asp			
290	295	300	
Pro Gln Gly Arg Gly Ala Pro Glu Ile Arg Ala Thr Thr Ala Thr Ser			
305	310	315	320
Val Cys Pro Ser Pro Phe Lys Met Lys Pro Ile Gly Leu Gln Glu Arg			
325	330	335	
Arg Gly Ser Asn Val Ser Leu Thr Leu Asp Met Ser Ser Leu Gly Asn			
340	345	350	
Ile Glu Pro Phe Val Ser Ile Pro Thr Pro Arg Glu Lys Val Ala Met			
355	360	365	

Glu Tyr Leu Gln Ser Ala Ser Arg Ile Leu Thr Arg Ser Gln Leu Arg  
 370 375 380  
 Asp Val Val Ala Ser Ser His Leu Leu Gln Ser Glu Phe Met Glu Ile  
 385 390 395 400  
 Pro Met Asn Phe Val Asp Pro Lys Glu Ile Asp Ile Pro Arg His Gly  
 405 410 415  
 Thr Lys Asn Arg Tyr Lys Thr Ile Leu Pro Asn Pro Leu Ser Arg Val  
 420 425 430  
 Cys Leu Arg Pro Lys Asn Val Thr Asp Ser Leu Ser Thr Tyr Ile Asn  
 435 440 445  
 Ala Asn Tyr Ile Arg Gly Tyr Ser Gly Lys Glu Lys Ala Phe Ile Ala  
 450 455 460  
 Thr Gln Gly Pro Met Ile Asn Thr Val Asp Asp Phe Trp Gln Met Val  
 465 470 475 480  
 Trp Gln Glu Asp Ser Pro Val Ile Val Met Ile Thr Lys Leu Lys Glu  
 485 490 495  
 Lys Asn Glu Lys Cys Val Leu Tyr Trp Pro Glu Lys Arg Gly Ile Tyr  
 500 505 510  
 Gly Lys Val Glu Val Leu Val Ile Ser Val Asn Glu Cys Asp Asn Tyr  
 515 520 525  
 Thr Ile Arg Asn Leu Val Leu Lys Gln Gly Ser His Thr Gln His Val  
 530 535 540  
 Lys His Tyr Trp Tyr Thr Ser Trp Pro Asp His Lys Thr Pro Asp Ser  
 545 550 555 560  
 Ala Gln Pro Leu Leu Gln Leu Met Leu Asp Val Glu Glu Asp Arg Leu  
 565 570 575  
 Ala Ser Gln Gly Arg Gly Pro Val Val Val His Cys Ser Ala Gly Ile  
 580 585 590  
 Gly Arg Thr Gly Cys Phe Ile Ala Thr Ser Ile Gly Cys Gln Gln Leu  
 595 600 605  
 Lys Glu Gly Val Val Asp Ala Leu Ser Ile Val Cys Gln Leu Arg  
 610 615 620  
 Met Asp Arg Gly Gly Met Val Gln Thr Ser Glu Gln Tyr Glu Phe Val  
 625 630 635 640  
 His His Ala Leu Cys Leu Tyr Glu Ser Arg Leu Ser Ala Glu Thr Val  
 645 650 655  
 Gln

<210> 28  
 <211> 537  
 <212> PRT  
 <213> Homo sapiens

<400> 28

Glu Arg Leu Leu Gly Arg Pro Gln Pro Ile Val Met Glu Ala Leu Asp  
 1 5 10 15  
 Glu Ala Glu Gly Leu Gln Asp Ser Gln Arg Glu Met Pro Pro Pro Pro  
 20 25 30  
 Pro Pro Ser Pro Pro Ser Asp Pro Ala Gln Lys Pro Pro Pro Arg Gly  
 35 40 45  
 Ala Gly Ser His Ser Leu Thr Val Arg Ser Ser Leu Cys Leu Phe Ala  
 50 55 60  
 Ala Ser Gln Phe Leu Leu Ala Cys Gly Val Leu Trp Phe Ser Gly Tyr  
 65 70 75 80  
 Gly His Met Trp Ser Gln Asn Ala Thr Asn Leu Val Ser Ser Leu Leu  
 85 90 95

Thr Leu Leu Lys Gln Leu Glu Pro Thr Ser Trp Leu Asp Ser Gly Thr  
 100 105 110  
 Trp Gly Val Pro Gly Leu Leu Leu Val Phe Leu Ser Val Gly Leu Val  
 115 120 125  
 Leu Val Thr Thr Leu Val Trp His Leu Leu Arg Thr Pro Pro Glu Pro  
 130 135 140  
 Pro Thr Pro Leu Pro Pro Glu Asp Arg Arg Gln Ser Val Ser Arg Gln  
 145 150 155 160  
 Pro Ser Phe Thr Tyr Ser Glu Trp Met Glu Glu Lys Ile Glu Asp Asp  
 165 170 175  
 Phe Leu Asp Leu Asp Pro Val Pro Glu Thr Pro Val Phe Asp Cys Val  
 180 185 190  
 Met Asp Ile Lys Pro Glu Ala Asp Pro Thr Ser Leu Thr Val Lys Ser  
 195 200 205  
 Met Gly Leu Gln Glu Arg Arg Gly Ser Asn Val Ser Leu Thr Leu Asp  
 210 215 220  
 Met Cys Thr Pro Gly Cys Asn Glu Glu Gly Phe Gly Tyr Leu Met Ser  
 225 230 235 240  
 Pro Arg Glu Glu Ser Ala Arg Glu Tyr Leu Leu Ser Ala Ser Arg Val  
 245 250 255  
 Leu Gln Ala Glu Glu Leu His Glu Lys Ala Leu Asp Pro Phe Leu Leu  
 260 265 270  
 Gln Ala Glu Phe Phe Glu Ile Pro Met Asn Phe Val Val Pro Lys Glu  
 275 280 285  
 Tyr Asp Ile Pro Gly Arg Cys Arg Lys Asn Arg Tyr Lys Thr Ile Leu  
 290 295 300  
 Pro Asn Pro His Ser Arg Val Cys Leu Thr Ser Pro Asp Pro Asp Asp  
 305 310 315 320  
 Pro Leu Ser Ser Tyr Ile Asn Ala Asn Tyr Ile Arg Gly Tyr Gly Gly  
 325 330 335  
 Glu Glu Lys Val Tyr Ile Ala Thr Gln Gly Pro Ile Val Ser Thr Val  
 340 345 350  
 Ala Asp Phe Trp Arg Met Val Trp Gln Glu His Thr Pro Ile Ile Val  
 355 360 365  
 Met Ile Thr Asn Ile Glu Glu Met Asn Glu Lys Cys Thr Glu Tyr Trp  
 370 375 380  
 Pro Glu Glu Gln Val Ala Tyr Asp Gly Val Glu Ile Thr Val Gln Lys  
 385 390 395 400  
 Val Ile His Thr Glu Asp Tyr Arg Leu Arg Leu Ile Ser Leu Lys Ser  
 405 410 415  
 Gly Thr Glu Glu Arg Gly Leu Lys His Tyr Trp Phe Thr Ser Trp Pro  
 420 425 430  
 Asp Gln Lys Thr Pro Asp Arg Ala Pro Pro Leu Leu His Leu Val Arg  
 435 440 445  
 Glu Val Glu Glu Ala Ala Gln Gln Glu Gly Pro His Cys Ala Pro Ile  
 450 455 460  
 Ile Val His Cys Ser Ala Gly Ile Gly Arg Thr Gly Cys Phe Ile Ala  
 465 470 475 480  
 Thr Ser Ile Cys Cys Gln Gln Leu Arg Gln Glu Gly Val Val Asp Ile  
 485 490 495  
 Leu Lys Thr Thr Cys Gln Leu Arg Gln Asp Arg Gly Gly Met Ile Gln  
 500 505 510  
 His Cys Glu Gln Tyr Gln Phe Val His His Val Met Ser Leu Tyr Glu  
 515 520 525  
 Lys Gln Leu Ser His Gln Ser Pro Glu  
 530 535



<210> 30  
 <211> 447  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Arg Ser Ser Thr Leu Gln Asp Pro Arg Arg Arg Asp Pro Gln Asp  
     1              5                 10                 15  
 Asp Val Tyr Val Asp Ile Thr Asp Arg Leu Arg Phe Ala Ile Leu Tyr  
     20             25                 30  
 Ser Arg Pro Lys Ser Ala Ser Asn Val His Tyr Phe Ser Ile Asp Asn  
     35             40                 45  
 Glu Leu Glu Tyr Glu Asn Phe Ser Glu Asp Phe Gly Pro Leu Asn Leu  
     50             55                 60  
 Ala Met Val Tyr Arg Tyr Cys Cys Lys Ile Asn Lys Lys Leu Lys Ser  
     65             70                 75                 80  
 Ile Thr Met Leu Arg Lys Lys Ile Val His Phe Thr Gly Ser Asp Gln  
     85             90                 95  
 Arg Lys Gln Ala Asn Ala Ala Phe Leu Val Gly Cys Tyr Met Val Ile  
     100            105                 110  
 Tyr Leu Gly Arg Thr Pro Glu Ala Ala Tyr Arg Ile Leu Ile Phe Gly  
     115            120                 125  
 Asp Thr Pro Tyr Ile Pro Phe Arg Asp Ala Ala Tyr Gly Ser Cys Asn  
     130            135                 140  
 Phe Tyr Ile Thr Leu Leu Asp Cys Phe His Ala Val Lys Lys Ala Met  
     145            150                 155                 160  
 Gln Tyr Gly Phe Leu Asn Phe Asn Ser Phe Asn Leu Asp Glu Tyr Glu  
     165            170                 175  
 His Tyr Glu Lys Ala Glu Asn Gly Asp Leu Asn Trp Ile Ile Pro Asp  
     180            185                 190  
 Arg Phe Ile Ala Phe Cys Gly Pro His Ser Arg Ala Arg Leu Glu Ser  
     195            200                 205  
 Gly Tyr His Gln His Ser Pro Glu Thr Tyr Ile Gln Tyr Phe Lys Asn  
     210            215                 220  
 His Asn Val Thr Thr Ile Ile Arg Leu Asn Lys Arg Met Tyr Asp Ala  
     225            230                 235                 240  
 Lys Arg Phe Thr Asp Ala Gly Phe Asp His His Asp Leu Phe Phe Ala  
     245            250                 255  
 Asp Gly Ser Thr Pro Thr Asp Ala Ile Val Lys Arg Phe Leu Asp Ile  
     260            265                 270  
 Cys Glu Asn Ala Glu Gly Ala Ile Ala Val His Cys Lys Ala Gly Leu  
     275            280                 285  
 Gly Arg Thr Gly Thr Leu Ile Ala Cys Tyr Ile Met Lys His Tyr Arg  
     290            295                 300  
 Met Thr Ala Ala Glu Thr Ile Ala Trp Val Arg Ile Cys Arg Pro Gly  
     305            310                 315                 320  
 Leu Val Ile Gly Pro Gln Gln Gln Phe Leu Val Met Lys Gln Thr Ser  
     325            330                 335  
 Leu Trp Leu Glu Gly Asp Tyr Phe Arg Gln Arg Leu Lys Gly Gln Glu  
     340            345                 350  
 Asn Gly Gln His Arg Ala Ala Phe Ser Lys Leu Leu Ser Gly Val Asp  
     355            360                 365  
 Asp Ile Ser Ile Asn Gly Val Glu Asn Gln Asp Gln Gln Glu Pro Lys  
     370            375                 380  
 Pro Tyr Ser Asp Asp Asp Glu Ile Asn Gly Val Thr Gln Gly Asp Arg

385	390	395	400
Ser Arg Ala Leu Lys Arg Arg Arg Gln Ser Lys Thr Asn Asp Ile Leu			
405	410	415	
Leu Pro Ser Pro Leu Ala Val Leu Thr Phe Thr Leu Cys Ser Val Val			
420	425	430	
Ile Trp Trp Ile Val Cys Asp Tyr Ile Leu Pro Ile Leu Leu Phe			
435	440	445	
<210> 31			
<211> 340			
<212> PRT			
<213> Homo sapiens			
<400> 31			
Met Leu Glu Ala Pro Gly Pro Ser Asp Gly Cys Glu Leu Ser Asn Pro			
1	5	10	15
Ser Ala Ser Arg Val Ser Cys Ala Gly Gln Met Leu Glu Val Gln Pro			
20	25	30	
Gly Leu Tyr Phe Gly Gly Ala Ala Ala Val Ala Glu Pro Asp His Leu			
35	40	45	
Arg Glu Ala Gly Ile Thr Ala Val Leu Thr Val Asp Ser Glu Glu Pro			
50	55	60	
Ser Phe Lys Ala Gly Pro Gly Val Glu Asp Leu Trp Arg Leu Phe Val			
65	70	75	80
Pro Ala Leu Asp Lys Pro Glu Thr Asp Leu Leu Ser His Leu Asp Arg			
85	90	95	
Cys Val Ala Phe Ile Gly Gln Ala Arg Ala Glu Gly Arg Ala Val Leu			
100	105	110	
Val His Cys His Ala Gly Val Ser Arg Ser Val Ala Ile Ile Thr Ala			
115	120	125	
Phe Leu Met Lys Thr Asp Gln Leu Pro Phe Glu Lys Ala Tyr Glu Lys			
130	135	140	
Leu Gln Ile Leu Lys Pro Glu Ala Lys Met Asn Glu Gly Phe Glu Trp			
145	150	155	160
Gln Leu Lys Leu Tyr Gln Ala Met Gly Tyr Glu Val Asp Thr Ser Ser			
165	170	175	
Ala Ile Tyr Lys Gln Tyr Arg Leu Gln Lys Val Thr Glu Lys Tyr Pro			
180	185	190	
Glu Leu Gln Asn Leu Pro Gln Glu Leu Phe Ala Val Asp Pro Thr Thr			
195	200	205	
Val Ser Gln Gly Leu Lys Asp Glu Val Leu Tyr Lys Cys Arg Lys Cys			
210	215	220	
Arg Arg Ser Leu Phe Arg Ser Ser Ser Ile Leu Asp His Arg Glu Gly			
225	230	235	240
Ser Gly Pro Ile Ala Phe Ala His Lys Arg Met Thr Pro Ser Ser Met			
245	250	255	
Leu Thr Thr Gly Arg Gln Ala Gln Cys Thr Ser Tyr Phe Ile Glu Pro			
260	265	270	
Val Gln Trp Met Glu Ser Ala Leu Leu Gly Val Met Asp Gly Gln Leu			
275	280	285	
Leu Cys Pro Lys Cys Ser Ala Lys Leu Gly Ser Phe Asn Trp Tyr Gly			
290	295	300	
Glu Gln Cys Ser Cys Gly Arg Trp Ile Thr Pro Ala Phe Gln Ile His			
305	310	315	320
Lys Asn Arg Val Asp Glu Met Lys Ile Leu Pro Val Leu Gly Ser Gln			
325	330	335	
Thr Gly Lys Ile			

340

<210> 32  
 <211> 150  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
 Met Gly Val Gln Pro Pro Asn Phe Ser Trp Val Leu Pro Gly Arg Leu  
     1                  5                  10                  15  
 Ala Gly Leu Ala Leu Pro Arg Leu Pro Ala His Tyr Gln Phe Leu Leu  
     20                  25                  30  
 Asp Leu Gly Val Arg His Leu Val Ser Leu Thr Glu Arg Gly Pro Pro  
     35                  40                  45  
 His Ser Asp Ser Cys Pro Gly Leu Thr Leu His Arg Leu Arg Ile Pro  
     50                  55                  60  
 Asp Phe Cys Pro Pro Ala Pro Asp Gln Ile Asp Arg Phe Val Gln Ile  
     65                  70                  75                  80  
 Val Asp Glu Ala Asn Ala Arg Gly Glu Ala Val Gly Val His Cys Ala  
     85                  90                  95  
 Leu Gly Phe Gly Arg Thr Gly Thr Met Leu Ala Cys Tyr Leu Val Lys  
     100                 105                 110  
 Glu Arg Gly Leu Ala Ala Gly Asp Ala Ile Ala Glu Ile Arg Arg Leu  
     115                 120                 125  
 Arg Pro Gly Pro Ile Glu Thr Tyr Glu Gln Glu Lys Ala Val Phe Gln  
     130                 135                 140  
 Phe Tyr Gln Arg Thr Lys  
     145                 150

<210> 33  
 <211> 322  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Gly Leu Met Leu Arg Arg Leu Arg Lys Gly Asn Leu Pro Ile Arg Ser  
     1                  5                  10                  15  
 Ile Ile Pro Asn His Ala Asp Lys Glu Arg Phe Ala Thr Arg Cys Lys  
     20                  25                  30  
 Ala Ala Thr Val Leu Leu Tyr Asp Glu Ala Thr Ala Glu Trp Gln Pro  
     35                  40                  45  
 Glu Pro Gly Ala Pro Ala Ser Val Leu Gly Leu Leu Gln Lys Leu  
     50                  55                  60  
 Arg Asp Asp Gly Cys Gln Ala Tyr Tyr Leu Gln Gly Gly Phe Asn Lys  
     65                  70                  75                  80  
 Phe Gln Thr Glu Tyr Ser Glu His Cys Glu Thr Asn Val Asp Ser Ser  
     85                  90                  95  
 Ser Ser Pro Ser Ser Pro Pro Thr Ser Val Leu Gly Leu Gly Gly  
     100                 105                 110  
 Leu Arg Ile Ser Ser Asp Cys Ser Asp Gly Glu Ser Asp Arg Glu Leu  
     115                 120                 125  
 Pro Ser Ser Ala Thr Glu Ser Asp Gly Ser Pro Val Pro Ser Ser Gln  
     130                 135                 140  
 Pro Ala Phe Pro Val Gln Ile Leu Pro Tyr Leu Tyr Leu Gly Cys Ala  
     145                 150                 155                 160  
 Lys Asp Ser Thr Asn Leu Asp Val Leu Gly Lys Tyr Gly Ile Lys Tyr  
     165                 170                 175

Ile Leu Asn Val Thr Pro Asn Leu Pro Asn Ala Phe Glu His Gly Gly  
 180 185 190  
 Glu Phe Thr Tyr Lys Gln Ile Pro Ile Ser Asp His Trp Ser Gln Asn  
 195 200 205  
 Leu Ser Gln Phe Phe Pro Glu Ala Ile Ser Phe Ile Asp Glu Ala Arg  
 210 215 220  
 Ser Lys Lys Cys Gly Val Leu Val His Cys Leu Ala Gly Ile Ser Arg  
 225 230 235 240  
 Ser Val Thr Val Thr Val Ala Tyr Leu Met Gln Lys Met Asn Leu Ser  
 245 250 255  
 Leu Asn Asp Ala Tyr Asp Phe Val Lys Arg Lys Ser Asn Ile Ser  
 260 265 270  
 Pro Asn Phe Asn Phe Met Gly Gln Leu Leu Asp Phe Glu Arg Thr Leu  
 275 280 285  
 Gly Leu Ser Ser Pro Cys Asp Asn His Ala Ser Ser Glu Gln Leu Tyr  
 290 295 300  
 Phe Ser Thr Pro Thr Asn His Asn Leu Phe Pro Leu Asn Thr Leu Glu  
 305 310 315 320  
 Ser Thr

<210> 34  
 <211> 521  
 <212> PRT  
 <213> Homo sapiens

<400> 34  
 Met Ser Glu Pro Lys Ala Ile Asp Pro Lys Leu Ser Thr Thr Asp Arg  
 1 5 10 15  
 Val Val Lys Ala Val Pro Phe Pro Pro Ser His Arg Leu Thr Ala Lys  
 20 25 30  
 Glu Val Phe Asp Asn Asp Gly Lys Pro Arg Val Asp Ile Leu Lys Ala  
 35 40 45  
 His Leu Met Lys Glu Gly Arg Leu Glu Glu Ser Val Ala Leu Arg Ile  
 50 55 60  
 Ile Thr Glu Gly Ala Ser Ile Leu Arg Gln Glu Lys Asn Leu Leu Asp  
 65 70 75 80  
 Ile Asp Ala Pro Val Thr Val Cys Gly Asp Ile His Gly Gln Phe Phe  
 85 90 95  
 Asp Leu Met Lys Leu Phe Glu Val Gly Gly Ser Pro Ala Asn Thr Arg  
 100 105 110  
 Tyr Leu Phe Leu Gly Asp Tyr Val Asp Arg Gly Tyr Phe Ser Ile Glu  
 115 120 125  
 Cys Val Leu Tyr Leu Trp Ala Leu Lys Ile Leu Tyr Pro Lys Thr Leu  
 130 135 140  
 Phe Leu Leu Arg Gly Asn His Glu Cys Arg His Leu Thr Glu Tyr Phe  
 145 150 155 160  
 Thr Phe Lys Gln Glu Cys Lys Ile Lys Tyr Ser Glu Arg Val Tyr Asp  
 165 170 175  
 Ala Cys Met Asp Ala Phe Asp Cys Leu Pro Leu Ala Ala Leu Met Asn  
 180 185 190  
 Gln Gln Phe Leu Cys Val His Gly Gly Leu Ser Pro Glu Ile Asn Thr  
 195 200 205  
 Leu Asp Asp Ile Arg Lys Leu Asp Arg Phe Lys Glu Pro Pro Ala Tyr  
 210 215 220  
 Gly Pro Met Cys Asp Ile Leu Trp Ser Asp Pro Leu Glu Asp Phe Gly  
 225 230 235 240

Asn Glu Lys Thr Gln Glu His Phe Thr His Asn Thr Val Arg Gly Cys  
 245 250 255  
 Ser Tyr Phe Tyr Ser Tyr Pro Ala Val Cys Glu Phe Leu Gln His Asn  
 260 265 270  
 Asn Leu Leu Ser Ile Leu Arg Ala His Glu Ala Gln Asp Ala Gly Tyr  
 275 280 285  
 Arg Met Tyr Arg Lys Ser Gln Thr Thr Gly Phe Pro Ser Leu Ile Thr  
 290 295 300  
 Ile Phe Ser Ala Pro Asn Tyr Leu Asp Val Tyr Asn Asn Lys Ala Ala  
 305 310 315 320  
 Val Leu Lys Tyr Glu Asn Asn Val Met Asn Ile Arg Gln Phe Asn Cys  
 325 330 335  
 Ser Pro His Pro Tyr Trp Leu Pro Asn Phe Met Asp Val Phe Thr Trp  
 340 345 350  
 Ser Leu Pro Phe Val Gly Glu Lys Val Thr Glu Met Leu Val Asn Val  
 355 360 365  
 Leu Asn Ile Cys Ser Asp Asp Glu Leu Gly Ser Glu Glu Asp Gly Phe  
 370 375 380  
 Asp Gly Ala Thr Ala Ala Ala Arg Lys Glu Val Ile Arg Asn Lys Ile  
 385 390 395 400  
 Arg Ala Ile Gly Lys Met Ala Arg Val Phe Ser Val Leu Arg Glu Glu  
 405 410 415  
 Ser Glu Ser Val Leu Thr Leu Lys Gly Leu Thr Pro Thr Gly Met Leu  
 420 425 430  
 Pro Ser Gly Val Leu Ser Gly Gly Lys Gln Thr Leu Gln Ser Ala Thr  
 435 440 445  
 Val Glu Ala Ile Glu Ala Asp Glu Ala Ile Lys Gly Phe Ser Pro Gln  
 450 455 460  
 His Lys Ile Thr Ser Phe Glu Glu Ala Lys Gly Leu Asp Arg Ile Asn  
 465 470 475 480  
 Glu Arg Met Pro Pro Arg Arg Asp Ala Met Pro Ser Asp Ala Asn Leu  
 485 490 495  
 Asn Ser Ile Asn Lys Ala Leu Thr Ser Glu Thr Asn Gly Thr Asp Ser  
 500 505 510  
 Asn Gly Ser Asn Ser Ser Asn Ile Gln  
 515 520

<210> 35  
 <211> 1267  
 <212> PRT  
 <213> Homo sapiens

<400> 35  
 Asp Leu Ser Arg Ser His Cys His Val Tyr Leu Ala His Leu Glu Asn  
 1 5 10 15  
 Ser Phe Gly Pro Ser Gly Ala Arg Glu Gly Ser Leu Ser Ser Gln Asp  
 20 25 30  
 Ser Arg Thr Glu Ser Ala Ser Leu Ser Gln Ser Gln Val Asn Gly Phe  
 35 40 45  
 Phe Ala Ser His Leu Gly Asp Gln Thr Trp Gln Glu Ser Gln His Gly  
 50 55 60  
 Ser Pro Ser Pro Ser Val Ile Ser Lys Ala Thr Glu Lys Glu Thr Phe  
 65 70 75 80  
 Thr Asp Ser Asn Gln Ser Lys Thr Lys Lys Pro Gly Ile Ser Asp Val  
 85 90 95  
 Thr Asp Tyr Ser Asp Arg Gly Asp Ser Asp Met Asp Glu Ala Thr Tyr  
 100 105 110

Ser Ser Ser Gln Asp His Gln Thr Pro Lys Gln Glu Ser Ser Ser Ser  
 115 120 125  
 Val Asn Thr Ser Asn Lys Met Asn Phe Lys Thr Phe Pro Ser Ser Pro  
 130 135 140  
 Pro Arg Ser Gly Asp Ile Phe Glu Val Glu Leu Ala Lys Asn Asp Asn  
 145 150 155 160  
 Ser Leu Gly Ile Ser Val Thr Gly Gly Val Asn Thr Ser Val Arg His  
 165 170 175  
 Gly Gly Ile Tyr Val Lys Ala Val Ile Pro Gln Gly Ala Ala Glu Ser  
 180 185 190  
 Asp Gly Arg Ile His Lys Gly Asp Arg Val Leu Ala Val Asn Gly Val  
 195 200 205  
 Ser Leu Glu Gly Ala Thr His Lys Gln Ala Val Glu Thr Leu Arg Asn  
 210 215 220  
 Thr Gly Gln Val Val His Leu Leu Leu Glu Lys Gly Gln Ser Pro Thr  
 225 230 235 240  
 Ser Lys Glu His Val Pro Val Thr Pro Gln Cys Thr Leu Ser Asp Gln  
 245 250 255  
 Asn Ala Gln Gly Gln Gly Pro Glu Lys Val Lys Lys Thr Thr Gln Val  
 260 265 270  
 Lys Asp Tyr Ser Phe Val Thr Glu Glu Asn Thr Phe Glu Val Lys Leu  
 275 280 285  
 Phe Lys Asn Ser Ser Gly Leu Gly Phe Ser Phe Ser Arg Glu Asp Asn  
 290 295 300  
 Leu Ile Pro Glu Gln Ile Asn Ala Ser Ile Val Arg Val Lys Lys Leu  
 305 310 315 320  
 Phe Pro Gly Gln Pro Ala Ala Glu Ser Gly Lys Ile Asp Val Gly Asp  
 325 330 335  
 Val Ile Leu Lys Val Asn Gly Ala Ser Leu Lys Gly Leu Ser Gln Gln  
 340 345 350  
 Glu Val Ile Ser Ala Leu Arg Gly Thr Ala Pro Glu Val Phe Leu Leu  
 355 360 365  
 Leu Cys Arg Pro Pro Pro Gly Val Leu Pro Glu Ile Asp Thr Ala Leu  
 370 375 380  
 Leu Thr Pro Leu Gln Ser Pro Ala Gln Val Leu Pro Asn Ser Ser Lys  
 385 390 395 400  
 Asp Ser Ser Gln Pro Ser Cys Val Glu Gln Ser Thr Ser Ser Asp Glu  
 405 410 415  
 Asn Glu Met Ser Asp Lys Ser Lys Lys Gln Cys Lys Ser Pro Ser Arg  
 420 425 430  
 Lys Asp Ser Tyr Ser Asp Ser Ser Gly Ser Gly Glu Asp Asp Leu Val  
 435 440 445  
 Thr Ala Pro Ala Asn Ile Ser Asn Ser Thr Trp Ser Ser Ala Leu His  
 450 455 460  
 Gln Thr Leu Ser Asn Met Val Ser Gln Ala Gln Ser His His Glu Ala  
 465 470 475 480  
 Pro Arg Val Lys Lys Ile Pro Phe Val Pro Cys Phe Thr Ile Leu Arg  
 485 490 495  
 Lys Arg Pro Asn Lys Pro Glu Phe Glu Asp Ser Asn Pro Ser Pro Leu  
 500 505 510  
 Pro Pro Asp Met Ala Pro Gly Gln Ser Tyr Gln Pro Gln Ser Glu Ser  
 515 520 525  
 Ala Ser Ser Ser Ser Met Asp Lys Tyr His Ile His His Ile Ser Glu  
 530 535 540  
 Pro Thr Arg Gln Glu Asn Trp Thr Pro Leu Lys Asn Asp Leu Glu Asn  
 545 550 555 560  
 His Leu Glu Asp Phe Glu Leu Glu Val Glu Leu Leu Ile Thr Leu Ile

565	570	575	
Lys Ser Glu Lys Gly Ser Leu Gly Phe Thr Val Thr Lys Gly Asn Gln			
580	585	590	
Arg Ile Gly Cys Tyr Val His Asp Val Ile Gln Asp Pro Ala Lys Ser			
595	600	605	
Asp Gly Arg Leu Lys Pro Gly Asp Arg Leu Ile Lys Val Asn Asp Thr			
610	615	620	
Asp Val Thr Asn Met Thr His Thr Asp Ala Val Asn Leu Leu Arg Gly			
625	630	635	640
Ser Lys Thr Val Arg Leu Val Ile Gly Arg Val Leu Glu Leu Pro Arg			
645	650	655	
Ile Pro Met Leu Pro His Leu Leu Pro Asp Ile Thr Leu Thr Cys Asn			
660	665	670	
Lys Glu Glu Leu Gly Phe Ser Leu Cys Gly Gly His Asp Ser Leu Tyr			
675	680	685	
Gln Val Val Tyr Ile Ser Asp Ile Asn Pro Arg Ser Val Ala Ala Ile			
690	695	700	
Glu Gly Asn Leu Gln Leu Leu Asp Val Ile His Tyr Val Asn Gly Val			
705	710	715	720
Ser Thr Gln Gly Met Thr Leu Glu Glu Val Asn Arg Ala Leu Asp Met			
725	730	735	
Ser Leu Pro Ser Leu Val Leu Lys Ala Thr Arg Asn Asp Leu Pro Val			
740	745	750	
Val Pro Ser Ser Lys Arg Ser Ala Val Ser Ala Pro Lys Ser Thr Lys			
755	760	765	
Gly Asn Gly Ser Tyr Ser Val Gly Ser Cys Ser Gln Pro Ala Leu Thr			
770	775	780	
Pro Asn Asp Ser Phe Ser Thr Val Ala Gly Glu Glu Ile Asn Glu Ile			
785	790	795	800
Ser Tyr Pro Lys Gly Lys Cys Ser Thr Tyr Gln Ile Lys Gly Ser Pro			
805	810	815	
Asn Leu Thr Leu Pro Lys Glu Ser Tyr Ile Gln Glu Asp Asp Ile Tyr			
820	825	830	
Asp Asp Ser Gln Glu Ala Glu Val Ile Gln Ser Leu Leu Asp Val Val			
835	840	845	
Asp Glu Glu Ser Gln Asn Leu Leu Asn Glu Asn Asn Ala Ala Gly Tyr			
850	855	860	
Ser Cys Gly Pro Gly Thr Leu Lys Met Asn Gly Lys Leu Ser Glu Glu			
865	870	875	880
Arg Thr Glu Asp Thr Asp Cys Asp Gly Ser Pro Leu Pro Glu Tyr Phe			
885	890	895	
Thr Glu Ala Thr Lys Met Asn Gly Cys Glu Glu Tyr Cys Glu Glu Lys			
900	905	910	
Val Lys Ser Glu Ser Leu Ile Gln Lys Pro Gln Glu Lys Lys Thr Asp			
915	920	925	
Asp Asp Glu Ile Thr Trp Gly Asn Asp Glu Leu Pro Ile Glu Arg Thr			
930	935	940	
Asn His Glu Asp Ser Asp Lys Asp His Ser Phe Leu Thr Asn Asp Glu			
945	950	955	960
Leu Ala Val Leu Pro Val Val Lys Val Leu Pro Ser Gly Lys Tyr Thr			
965	970	975	
Gly Ala Asn Leu Lys Ser Val Ile Arg Val Leu Arg Val Ala Arg Ser			
980	985	990	
Gly Ile Pro Ser Lys Glu Leu Glu Asn Leu Gln Glu Leu Lys Pro Leu			
995	1000	1005	
Asp Gln Cys Leu Ile Gly Gln Thr Lys Glu Asn Arg Arg Lys Asn Arg			
1010	1015	1020	

Tyr Lys Asn Ile Leu Pro Tyr Asp Ala Thr Arg Val Pro Leu Gly Asp  
 1025 1030 1035 1040  
 Glu Gly Gly Tyr Ile Asn Ala Ser Phe Ile Lys Ile Pro Val Gly Lys  
 1045 1050 1055  
 Glu Glu Phe Val Tyr Ile Ala Cys Gln Gly Pro Leu Pro Thr Thr Val  
 1060 1065 1070  
 Gly Asp Phe Trp Gln Met Ile Trp Glu Gln Lys Ser Thr Val Ile Ala  
 1075 1080 1085  
 Met Met Thr Gln Glu Val Glu Gly Glu Lys Ile Lys Cys Gln Arg Tyr  
 1090 1095 1100  
 Trp Pro Asn Ile Leu Gly Lys Thr Thr Met Val Ser Asn Arg Leu Arg  
 1105 1110 1115 1120  
 Leu Ala Leu Val Arg Met Gln Gln Leu Lys Gly Phe Val Val Arg Ala  
 1125 1130 1135  
 Met Thr Leu Glu Asp Ile Gln Thr Arg Glu Val Arg His Ile Ser His  
 1140 1145 1150  
 Leu Asn Phe Thr Ala Trp Pro Asp His Asp Thr Pro Ser Gln Pro Asp  
 1155 1160 1165  
 Asp Leu Leu Thr Phe Ile Ser Tyr Met Arg His Ile His Arg Ser Gly  
 1170 1175 1180  
 Pro Ile Ile Thr His Cys Ser Ala Gly Ile Gly Arg Ser Gly Thr Leu  
 1185 1190 1195 1200  
 Ile Cys Ile Asp Val Val Leu Gly Leu Ile Ser Gln Asp Leu Asp Phe  
 1205 1210 1215  
 Asp Ile Ser Asp Leu Val Arg Cys Met Arg Leu Gln Arg His Gly Met  
 1220 1225 1230  
 Val Gln Thr Glu Asp Gln Tyr Ile Phe Cys Tyr Gln Val Ile Leu Tyr  
 1235 1240 1245  
 Val Leu Thr Arg Leu Gln Ala Glu Glu Gln Lys Gln Gln Pro Gln  
 1250 1255 1260  
 Leu Leu Lys  
 1265

<210> 36  
 <211> 551  
 <212> PRT  
 <213> Homo sapiens

<400> 36

Met Asn Glu Ser Pro Asp Pro Thr Asp Leu Ala Gly Val Ile Ile Glu  
 1 5 10 15  
 Leu Gly Pro Asn Asp Ser Pro Gln Thr Ser Glu Phe Lys Gly Ala Thr  
 20 25 30  
 Glu Glu Ala Pro Ala Lys Glu Ser Pro His Thr Ser Glu Phe Lys Gly  
 35 40 45  
 Ala Ala Arg Val Ser Pro Ile Ser Glu Ser Val Leu Ala Arg Leu Ser  
 50 55 60  
 Lys Phe Glu Val Glu Asp Ala Glu Asn Val Ala Ser Tyr Asp Ser Lys  
 65 70 75 80  
 Ile Lys Lys Ile Val His Ser Ile Val Ser Ser Phe Ala Phe Gly Leu  
 85 90 95  
 Phe Gly Val Phe Leu Val Leu Leu Asp Val Thr Leu Ile Leu Ala Asp  
 100 105 110  
 Leu Ile Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser  
 115 120 125  
 Ile Ser Leu Ala Ile Ala Leu Phe Phe Leu Met Asp Val Leu Leu Arg  
 130 135 140

Val Phe Val Glu Arg Arg Gln Gln Tyr Phe Ser Asp Leu Phe Asn Ile  
 145 150 155 160  
 Leu Asp Thr Ala Ile Ile Val Ile Leu Leu Leu Val Asp Val Val Tyr  
 165 170 175  
 Ile Phe Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr His  
 180 185 190  
 Leu Leu Arg Leu Leu Arg Leu Ile Ile Leu Leu Arg Ile Phe His Leu  
 195 200 205  
 Phe His Gln Lys Arg Gln Leu Glu Lys Leu Ile Arg Arg Arg Val Ser  
 210 215 220  
 Glu Asn Lys Arg Arg Tyr Thr Arg Asp Gly Phe Asp Leu Asp Leu Thr  
 225 230 235 240  
 Tyr Val Thr Glu Arg Ile Ile Ala Met Ser Phe Pro Ser Ser Gly Arg  
 245 250 255  
 Gln Ser Phe Tyr Arg Asn Pro Ile Lys Glu Val Val Arg Phe Leu Asp  
 260 265 270  
 Lys Lys His Arg Asn His Tyr Arg Val Tyr Asn Leu Cys Ser Glu Arg  
 275 280 285  
 Ala Tyr Asp Pro Lys His Phe His Asn Arg Val Val Arg Ile Met Ile  
 290 295 300  
 Asp Asp His Asn Val Pro Thr Leu His Gln Met Val Val Phe Thr Lys  
 305 310 315 320  
 Glu Val Asn Glu Trp Met Ala Gln Asp Leu Glu Asn Ile Val Ala Ile  
 325 330 335  
 His Cys Lys Gly Gly Thr Asp Arg Thr Gly Thr Met Val Cys Ala Phe  
 340 345 350  
 Leu Ile Ala Ser Glu Ile Cys Ser Thr Ala Lys Glu Ser Leu Tyr Tyr  
 355 360 365  
 Phe Gly Glu Arg Arg Thr Asp Lys Thr His Ser Glu Lys Phe Gln Gly  
 370 375 380  
 Val Glu Thr Pro Ser Gln Lys Arg Tyr Val Ala Tyr Phe Ala Gln Val  
 385 390 395 400  
 Lys His Leu Tyr Asn Trp Asn Leu Pro Pro Arg Arg Ile Leu Phe Ile  
 405 410 415  
 Lys His Phe Ile Ile Tyr Ser Ile Pro Arg Tyr Val Arg Asp Leu Lys  
 420 425 430  
 Ile Gln Ile Glu Met Glu Lys Lys Val Val Phe Ser Thr Ile Ser Leu  
 435 440 445  
 Gly Lys Cys Ser Val Leu Asp Asn Ile Thr Thr Asp Lys Ile Leu Ile  
 450 455 460  
 Asp Val Phe Asp Gly Pro Pro Leu Tyr Asp Asp Val Lys Val Gln Phe  
 465 470 475 480  
 Phe Tyr Ser Asn Leu Pro Thr Tyr Tyr Asp Asn Cys Ser Phe Tyr Phe  
 485 490 495  
 Trp Leu His Thr Ser Phe Ile Glu Asn Asn Arg Leu Tyr Leu Pro Lys  
 500 505 510  
 Asn Glu Leu Asp Asn Leu His Lys Gln Lys Ala Arg Arg Ile Tyr Pro  
 515 520 525  
 Ser Asp Phe Ala Val Glu Ile Leu Phe Gly Glu Lys Met Thr Ser Ser  
 530 535 540  
 Asp Val Val Ala Gly Ser Asp  
 545 550

&lt;210&gt; 37

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 37

Met Ala Asp Leu Asp Lys Leu Asn Ile Asp Ser Ile Ile Gln Arg Leu  
 1 5 10 15  
 Leu Glu Val Arg Gly Ser Lys Pro Gly Lys Asn Val Gln Leu Gln Glu  
 20 25 30  
 Asn Glu Ile Arg Gly Leu Cys Leu Lys Ser Arg Glu Ile Phe Leu Ser  
 35 40 45  
 Gln Pro Ile Leu Leu Glu Leu Ala Pro Leu Lys Ile Cys Gly Asp  
 50 55 60  
 Ile His Gly Gln Tyr Tyr Asp Leu Leu Arg Leu Phe Glu Tyr Gly Gly  
 65 70 75 80  
 Phe Pro Pro Glu Ser Asn Tyr Leu Phe Leu Gly Asp Tyr Val Asp Arg  
 85 90 95  
 Gly Lys Gln Ser Leu Glu Thr Ile Cys Leu Leu Leu Ala Tyr Lys Ile  
 100 105 110  
 Lys Tyr Pro Glu Asn Phe Phe Leu Leu Arg Gly Asn His Glu Cys Ala  
 115 120 125  
 Ser Ile Asn Arg Ile Tyr Gly Phe Tyr Asp Glu Cys Lys Arg Arg Tyr  
 130 135 140  
 Asn Ile Lys Leu Trp Lys Thr Phe Thr Asp Cys Phe Asn Cys Leu Pro  
 145 150 155 160  
 Ile Ala Ala Ile Val Asp Glu Lys Ile Phe Cys Cys His Gly Gly Leu  
 165 170 175  
 Ser Pro Asp Leu Gln Ser Met Glu Gln Ile Arg Arg Ile Met Arg Pro  
 180 185 190  
 Thr Asp Val Pro Asp Gln Gly Leu Leu Cys Asp Leu Leu Trp Ser Asp  
 195 200 205  
 Pro Asp Lys Asp Val Leu Gly Trp Gly Glu Asn Asp Arg Gly Val Ser  
 210 215 220  
 Phe Thr Phe Gly Ala Glu Val Val Ala Lys Phe Leu His Lys His Asp  
 225 230 235 240  
 Leu Asp Leu Ile Cys Arg Ala His Gln Val Val Glu Asp Gly Tyr Glu  
 245 250 255  
 Phe Phe Ala Lys Arg Gln Leu Val Thr Leu Phe Ser Ala Pro Asn Tyr  
 260 265 270  
 Cys Gly Glu Phe Asp Asn Ala Gly Ala Met Met Ser Val Asp Glu Thr  
 275 280 285  
 Leu Met Cys Ser Phe Gln Ile Leu Lys Pro Ala Glu Lys Lys Lys Pro  
 290 295 300  
 Asn Ala Thr Arg Pro Val Thr Pro Pro Arg Gly Met Ile Thr Lys Gln  
 305 310 315 320  
 Ala Lys Lys

&lt;210&gt; 38

&lt;211&gt; 319

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 38

Asp Lys Leu Asn Ile Asp Ser Ile Ile Gln Arg Leu Leu Glu Val Arg  
 1 5 10 15  
 Gly Ser Lys Pro Gly Lys Asn Val Gln Leu Gln Glu Asn Glu Ile Arg  
 20 25 30  
 Gly Leu Cys Leu Lys Ser Arg Glu Ile Phe Leu Ser Gln Pro Ile Leu  
 35 40 45

Leu Glu Leu Glu Ala Pro Leu Lys Ile Cys Gly Asp Ile His Gly Gln  
 50 55 60  
 Tyr Tyr Asp Leu Leu Arg Leu Phe Glu Tyr Gly Gly Phe Pro Pro Glu  
 65 70 75 80  
 Ser Asn Tyr Leu Phe Leu Gly Asp Tyr Val Asp Arg Gly Lys Gln Ser  
 85 90 95  
 Leu Glu Thr Ile Cys Leu Leu Ala Tyr Lys Ile Lys Tyr Pro Glu  
 100 105 110  
 Asn Phe Phe Leu Leu Arg Gly Asn His Glu Cys Ala Ser Ile Asn Arg  
 115 120 125  
 Ile Tyr Gly Phe Tyr Asp Glu Cys Lys Arg Arg Tyr Asn Ile Lys Leu  
 130 135 140  
 Trp Lys Thr Phe Thr Asp Cys Phe Asn Cys Leu Pro Ile Ala Ala Ile  
 145 150 155 160  
 Val Asp Glu Lys Ile Phe Cys Cys His Gly Gly Leu Ser Pro Asp Leu  
 165 170 175  
 Gln Ser Met Glu Gln Ile Arg Arg Ile Met Arg Pro Thr Asp Val Pro  
 180 185 190  
 Asp Gln Gly Leu Leu Cys Asp Leu Leu Trp Ser Asp Pro Asp Lys Asp  
 195 200 205  
 Val Leu Gly Trp Gly Glu Asn Asp Arg Gly Val Ser Phe Thr Phe Gly  
 210 215 220  
 Ala Glu Val Val Ala Lys Phe Leu His Lys His Asp Leu Asp Leu Ile  
 225 230 235 240  
 Cys Arg Ala His Gln Val Val Glu Asp Gly Tyr Glu Phe Phe Ala Lys  
 245 250 255  
 Arg Gln Leu Val Thr Leu Phe Ser Ala Pro Asn Tyr Cys Gly Glu Phe  
 260 265 270  
 Asp Asn Ala Gly Ala Met Met Ser Val Asp Glu Thr Leu Met Cys Ser  
 275 280 285  
 Phe Gln Ile Leu Lys Pro Ala Glu Lys Lys Pro Asn Ala Thr Arg  
 290 295 300  
 Pro Val Thr Pro Pro Arg Gly Met Ile Thr Lys Gln Ala Lys Lys  
 305 310 315

<210> 39

<211> 309

<212> PRT

<213> Homo sapiens

<400> 39

Met Asp Glu Lys Val Phe Thr Lys Glu Leu Asp Gln Trp Ile Glu Gln  
 1 5 10 15  
 Leu Asn Glu Cys Lys Gln Leu Ser Glu Ser Gln Val Lys Ser Leu Cys  
 20 25 30  
 Glu Lys Ala Lys Glu Ile Leu Thr Lys Glu Ser Asn Val Gln Glu Val  
 35 40 45  
 Arg Cys Pro Val Thr Val Cys Gly Asp Val His Gly Gln Phe His Asp  
 50 55 60  
 Leu Met Glu Leu Phe Arg Ile Gly Gly Lys Ser Pro Asp Thr Asn Tyr  
 65 70 75 80  
 Leu Phe Met Gly Asp Tyr Val Asp Arg Gly Tyr Tyr Ser Val Glu Thr  
 85 90 95  
 Val Thr Leu Leu Val Ala Leu Lys Val Arg Tyr Arg Glu Arg Ile Thr  
 100 105 110  
 Ile Leu Arg Gly Asn His Glu Ser Arg Gln Ile Thr Gln Val Tyr Gly  
 115 120 125

Phe Tyr Asp Glu Cys Leu Arg Lys Tyr Gly Asn Ala Asn Val Trp Lys  
 130 135 140  
 Tyr Phe Thr Asp Leu Phe Asp Tyr Leu Pro Leu Thr Ala Leu Val Asp  
 145 150 155 160  
 Gly Gln Ile Phe Cys Leu His Gly Gly Leu Ser Pro Ser Ile Asp Thr  
 165 170 175  
 Leu Asp His Ile Arg Ala Leu Asp Arg Leu Gln Glu Val Pro His Glu  
 180 185 190  
 Gly Pro Met Cys Asp Leu Leu Trp Ser Asp Pro Asp Asp Arg Gly Gly  
 195 200 205  
 Trp Gly Ile Ser Pro Arg Gly Ala Gly Tyr Thr Phe Gly Gln Asp Ile  
 210 215 220  
 Ser Glu Thr Phe Asn His Ala Asn Gly Leu Thr Leu Val Ser Arg Ala  
 225 230 235 240  
 His Gln Leu Val Met Glu Gly Tyr Asn Trp Cys His Asp Arg Asn Val  
 245 250 255  
 Val Thr Ile Phe Ser Ala Pro Asn Tyr Cys Tyr Arg Cys Gly Asn Gln  
 260 265 270  
 Ala Ala Ile Met Glu Leu Asp Asp Thr Leu Lys Tyr Ser Phe Leu Gln  
 275 280 285  
 Phe Asp Pro Ala Pro Arg Arg Gly Glu Pro His Val Thr Arg Arg Thr  
 290 295 300  
 Pro Asp Tyr Phe Leu  
 305

<210> 40  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Artificially Synthesized Primer Sequence

<400> 40  
 tacggaagtg ttacttctgc

20

<210> 41  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Artificially Synthesized Primer Sequence

<400> 41  
 tgtgggaggt tttttctcta

20

<210> 42  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Artificially Synthesized Primer Sequence

<400> 42  
 gttttcccaag tcacgac

17

<210> 43  
<211> 17  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Artificially Synthesized Primer Sequence  
  
<400> 43  
caggaaacag ctagtgac